

The future of

Market Research and Artificial Intelligence

within Africa & Emerging Markets

Topics

This book is specifically designed for those interested in market research within Africa and emerging markets that want to understand how AI can be used in the research field and applied in informal and formal markets.

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“ The future of machine learning research is in Africa...whether people know it or not ”

*- Moustapha Cisse,
Director of Google AI Ghana.*

What is AI to Market Researchers?

What is AI? Simply put AI (Artificial intelligence) is a segment of computer science that enables computers to think and act the same way humans do but at a much more rapid rate. Once these machines have analysed and learnt the repetitive behaviour they are then able to create new ways of learning which can outperform human activity. There is always room for human error or opportunity cost when analysing data.

AI is currently being used within market research today, and there are some interesting technologies being taken advantage of to save time and make use of better decision making.

These innovative technologies include; Machine learning, Deep learning, Neural networks, Natural Language Processing (NLP), image recognition, Speech/Voice Recognition, Data science & Robotic Process Automation (RPA).

Within the market research context, these technologies can be harnessed for the greater good and better understanding when using data.



Three ways AI improves

Market Research

Sentiment - Using natural language processing and sentiment to understand the emotional context behind answers that respondents give, allowing a deeper level of analysis.

Advanced data analysis - Provides insights into the patterns, gaps and opportunities which the human eye may have missed.

Natural language processing - Being able to have conversations with users via-voice or even text gives much more depth than written surveys. At scale, it enables insight into ever-changing consumers behaviour.

1. Sentiment Analysis

Sentiment analysis in basic terms is a technology that sits within natural language processing. It is the ability to understand sentiment within text, meaning it can analyse text to understand if a person is happy, sad, angry or frustrated. This analysis is mostly used during social listening or with reviews. As well as analysis of text it can also assess context and measure polarity if a person is giving a subjective or objective opinion.

How then do we add sentiment analysis to market research, particularly within an African language environment? Across Africa there are over 2000 (official and unofficial) languages.

Within these languages and dialects, there are different forms of expression from tones and metaphors, to physical gestures and sarcastic ways in which to describe a product or service. Metaphors are the hardest to decipher within sentiment analysis because what is said directly could mean something else. We can agree that people are more expressive within their natural tongue, this also helps gain better insight when wanting to understand survey takers.

How does one understand all the types of vernacular and metaphors in Swahili, Yoruba and Zulu?

We at Survey54 are on a mission to solve this problem by taking on one language at a time. In an attempt to understand the missed nuances of the language we intend to delve deep into negative and positive keywords depending on the context. As we start to grow our library, we will add a rule-based system.

This technology-based system will measure subjectivity and polarity, as we add these rules we will need to incorporate expression based on cultural nuances within each language.

Once completed our machine learning programme will be implemented in a market research setting to help understand the language. This will be carried out in three steps:

Step1

Respondent receives voice survey (Yoruba, Swahili or Zulu)

Step2

Respondent replies in their local language (IVR, Video voice)

Step3

Voice responses are received on our platform and we use NLP to understand the context.

2. AI advanced analytics

For data to be accurate collection methods need to be authentic and transparent. As mentioned earlier, within emerging markets, especially those in Sub-Saharan Africa data collection methods are scarce particularly where informal markets and sectors are prevalent.

In this instance the question becomes how do we use advanced analytics even without AI in these informal markets?

The great benefit of AI is the ability to conduct human-related tasks at immense speeds with a great level of detail.

Machine learning is a continuation of the concepts around predictive analytics, with one key difference: The AI system is able to test assumptions and learn autonomously.

This makes insights much easier, a human does not need to outline every action or reaction. AI machine learning is able to rest and reorganize data then predict every customer journey a prediction not achievable by humans.

So with that said, let's revisit the initial questions, how do you apply machine learning methods to informal markets? How does an FMCG company understand why, when and how people buy their goods? It's worth mentioning that in this context 'Informal' can be defined as where trade has taken place within a market or on the street with cash, no receipt or no tracking.

Through our research we've identified a handful of start-ups attempting to formalise the process by introducing QR code payment through mobile money. Though this data set is quite new we believe that a combination of transaction mobile money payments and using real time survey data collection can provide a representative view of what is bought within countries where informal markets make up 80-90% of trade.

Data collection via mobile transactions is predicted to become more widely adopted as governments look to remove cash from circulation and transition into digital money payments. As transactional data grows, services on top of this would be helpful to understand what is being sold and at what frequency.

As part of our company roadmap, Survey54 is exploring how computer vision and AI could be used while transaction data is being built up, the solution, leveraging imagery. By incentivising customers to take images of their shopping, it becomes possible to gain a true picture of purchasing behaviour.



Good Quality data within **Emerging Markets**

It is widely acknowledged wrong decisions can be made because of the lack of data and/or incorrect data. There is a notion within emerging markets, especially those in Africa that there exists a gap within data collection. Additionally data-based decisions are hard to stick by if data collection is non-existent and fragile. Governments across the continent should be spearheading data collection at local levels which should be uniform across each country.

The same can also be said for organisations that need data to forecast across their entire supply-chain, from production volumes, to distribution outlets, optimal retail prices and to even understand who their customer is.

A lack of access to credible and representative data means crucial decisions are often made based on assumptions. According to the IMF, Africa's biggest economy Nigeria has 65% of its commercial activity within the informal sector, in nearby Ghana this number jumps up to 80%. How does one make formal decisions in an environment that is run on its own accord? How does one find the opportunities for improvement?

Limited data doesn't mean informal environments do not work at present, it simply makes way for increased efficiency. As market researchers, we can ask people what car they would buy and why, but numbers on transactional trade or even after sales vehicles reveals a better story, without this data a manufacturer is basing the decision on pure opinion.

Those transactions are done informally which does not help the manufacturer. This is not just an Africa problem but according to ILO, India is still 80% informal compared to South Africa with an informal sector of 17%. As sectors become formal the more likely it is that investment can be measured and better decisions can be made.



Buy vs Build?

Our model at Survey54 is pretty simple, we believe in a lean approach when implementing new software such as AI.

Organisations can either choose to buy or if they have the expertise and scope build their desired software. Before adoption of a new system we've found it imperative to ask ourselves the following:

1. What will AI be solving within my organisations?

2. Do you have in-house resources that can build this type of technology or would you need to recruit?

In addition both the pros and cons need to be addressed in the discovery phase:

Build - Pros

1. Greater Control and scalability- better control of your systems and ability to build to fit your infrastructure.
2. Customization- build what suits your data needs and collection methods.
3. Integration- Building your solution will allow you to integrate into your existing processes.

Build - Cons

1. Upfront cost- Building a machine learning system is expensive and resource-intensive.
2. Time to build- a significant amount of time is required to build out the software, however time factors will also need to be taken into account when sourcing teams, and building custom workflows.

Buy - Pros

1. Lower upfront cost- buying a SaaS solution means you won't be paying a higher cost and can use as and when.
2. Integration & updates - Most SaaS software is built with API's which you can integrate into your software. In addition you're able to benefit from updates ensuring your company remains at the forefront.

Buy - Cons

1. Less control- You have less control over updates and direction of the software.
2. Less customisation/ compatibility - You cannot customise the software used or how data sets are displayed. Working with start-ups may allow for more flexibility.
3. Potential long term payment/ contract cycles



Recommendations

Know your problem

Without having a good understanding of the business case, AI is not always the best solution. You have to think about what obstacles you're trying to solve and additionally the people, tools, experience and technologies needed to solve them.

Know your company culture

When looking for a new solution, culture is an important success factor. Implementing AI needs a well thought through change management program as culture can be the biggest building block for success. Implementing AI can serve as a disruptor and easily change the organisation's set-up which has been in place for years.

People within organisations must feel empowered and motivated to make use of these new systems within everyday tasks. After all they're most likely the ones that will be using it. Far too often decisions are taken without addressing the possible impact on employees.

Costs

Upfront cost and implementation will be fairly high, as previously mentioned these costs are not just limited to the technology but training and resource allocation.

Though cost when building AI is high, organizations will be building for the future, and have an easier way to predict customer actions, preferences and buying channels.

As the ability to collect data within Africa and emerging markets improves, the implementation of AI from the ground up can be advantageous if done correctly.

Whilst AI may be a 'buzz word' in some instances, the impact and long term uses outlined throughout this E-book are indicative that organisations should lean-into the idea of embracing it, albeit once a thorough business-fit analysis has been conducted. As with all solutions, it has to make sense for your organisation.

About Survey 54

Survey54 offers businesses relevant and timely data on countries within Africa that can help validate assumptions and stress test strategies even during nationwide lockdowns.

With the help of our AI mobile platform, brands can benefit from concept testing and real-time opinion polls to gather the information; they need on one or more products or services.

Beyond this, we help media conglomerates and brands improve on concept and viewership.

About the author, CEO/ Co-founder of Survey54

Stephan

has a background working within fast-growing tech companies, and has experience leading products at Uber and was an early employee in EMEA for SurveyMonkey.

He has a masters in Innovation and management, with a focus on innovation within the market research industry.

For brands that need to test out their products in an emerging market, this platform also provides an audience with the guarantee of quick feedback and responses.

For more information on the surveys and other audience based services offered by Survey54, contact us at info@survey54.com or visit survey54.com.

