



EXPLORATORY STUDY ON THE ROLE AND IMPACT OF KENYAN OPEN DATA TECHNOLOGY INTERMEDIARIES

AN OPEN DATA IN DEVELOPING COUNTRIES CASE STUDY

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INTRODUCTION

This is a brief summary of the main findings from "*Understanding the impacts of Kenya open data applications and services*", a one year study that iHub Research has been conducting, as part of a two-year research program titled 'Exploring the Emerging Impacts of Open Data in Developing Countries' or, commonly referred to as, Open Data in Developing Countries (ODDC). This research program is coordinated by the World Wide Web Foundation, and funded by the Canadian International Development Research Center (IDRC).

The project is part of 17 independent case studies conducted in 14 countries, with iHub Research's focus being on exploring emerging impacts of open data in Kenya. iHub Research, therefore, set out to study and assess the post-implementation process of initiatives that use data from Kenya Open Data Initiative's (KODI) portal (opendata.go.ke). These initiatives include Code4Kenya, an outreach initiative supporting intermediaries to work with government datasets to develop applications and services that make data more accessible and that improve governance, as well as independently created open data applications.

OBJECTIVES

The main objective of this research was to monitor and assess the impact of these open data applications and initiatives in promoting and facilitating the mass use of open data, thus promoting different governance structures within the sectors of health and education. The research aimed to explore the extent to which these open data applications affect access to and use of government information in relation to service delivery within these sectors. Specifically, the research aimed is to study the following key elements:

1. How intermediary open data applications affect the awareness of the availability and potential value of open data among citizens;
2. How intermediary open data applications are deployed to increase consumption and use of open data;
3. How intermediary open data applications impact citizens and improve governance.

METHODOLOGY

The research used a mixed method approach, which combined qualitative, quantitative and experimental methods. This was necessary to provide a holistic view of the status of open data awareness, access and use in the country and help us better understand the underlying factors that affect the roll out, adoption and use of open data. Literature review was carried out to get a better understanding of the current state of the initiatives and expound on the various contexts in which these initiatives exist. These included social, political, legal, and institutional contexts.

A baseline survey was also carried out on the community awareness of the concept of open data, KODI and the resulting applications. The survey also collected data on the respondents' preference with regards to what government information is of most interest to their activities and daily life, whether they found it or not, if found, the sources of such information, and in which formats. This baseline study was also complemented by dashboard data analysis of the KODI portal, Code4Kenya applications and other independent applications to gauge user accessibility and uptake.

Building on the main findings from the baseline survey and the dashboard analytics, and to acquire deeper understanding of the local context, in-depth interviews were carried out with key stakeholders. Additionally, a user experience experiment was carried out on three open data platforms to enrich our understanding of the usability of the platforms and whether their designs and content were fit for the intended purposes. Findings from these techniques were aggregated and cross-analyzed to measure the extent to which technology intermediaries have increased the accessibility and utilization of open data in Kenya.

KEY FINDINGS

Citizens access and use government data but know little about KODI.

There is evidence that indeed, citizens are searching and do find government related information as all those surveyed were interested in information related to education and health. In fact, 62% of our survey respondents stated that they currently received information on services from the government. This includes information related to the ministries, their various programs, and the services they offer such as youth fund, education, census, security, health, business and training. Media was the most popular source of information at 75% with online sources coming in second at 54%.

However, there was very little knowledge of KODI among our respondents. For example, university students based in Nairobi, despite having access to Internet, television and radio had never heard of the initiative. Only 10% of all respondents had heard of the open data concept before, with 7% having heard of KODI and the government portal. Also, none of our respondents was aware of any of the Code4Kenya and other open data applications. Consequently, some of the developers working on these applications mentioned that they had also abandoned their applications or shifted priorities due to this low awareness and usage.

One of the findings we found very interesting is that approximately 50% of education related information desired by those surveyed does exist in both the KODI platforms and the applications built. The lack of awareness in this case contributed to the loss of potential citizen engagement on the platforms through this necessary information.

Low quality of the available data hindering its usage and value

The quality of the available data greatly hindered the use of the platform, both KODI platform and related applications. Low data quality on the KODI platform was inherited by the

applications drawing their data from the portal, consequently negatively affecting the overall data quality in these applications. Below are the main issues identified that contributed to the low data quality:

- **Information relevance:** There is clear information mismatch between what was available and what citizens wanted leading. This would ultimately lead to low adoption, even if all other enablers were at optimum level.
- **Outdated information:** Data on the platform is not regularly updated, as government agencies do not have a framework in place to frequently publish their data as open data. This meant that users had to rely on old datasets and in many cases finding it less relevant to their needs.
- **Lack of readily usable datasets:** As for developers interviewed, many of them had to spend time finding and cleaning the data and sometimes complementing it with additional data from other sources. Wrongly structured data also made it difficult for developers to extract and use the data from the platform directly into the application.

Well-designed and implemented technology intermediaries enhance access and usability of open data

Observations from our usability experiments indicated that participants found the KODI platform difficult to navigate and were unable to access the specific information they were interested in. When using the applications tested, however, participants found them relatively easier to navigate and they were successful in extracting the information of interest to them. The diagram below illustrates user preferences in terms of general design and usability as well as information therein, when exposed to the different platforms.

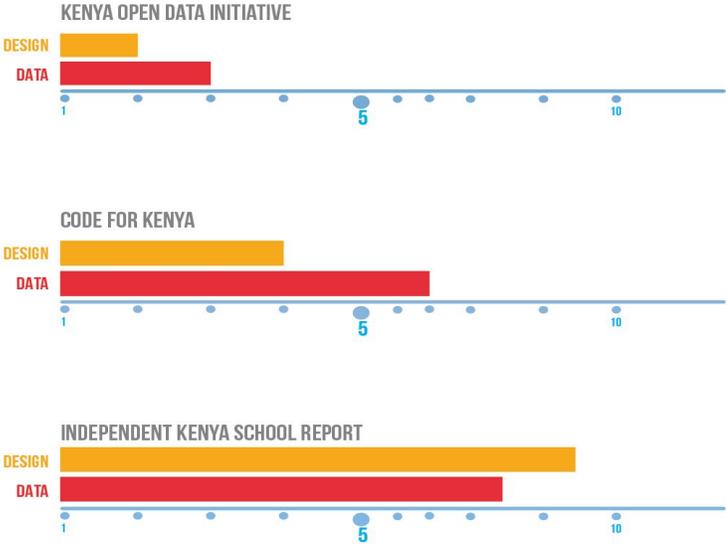


Figure 1 Design and Information preferences of users from the Usability Evaluation

DETERMINANTS OF OPEN DATA PLATFORMS

Based on our findings we can deduce the following framework of the ideal factors that would increase the utilization and impact of open data applications.

KODI

- 1. Feedback/Citizen Engagement to ensure the data provided is demand-driven;
- 2. Improve quality of the available data;
- 3. Improvement on the general usability of the platform system.

Apps

- 1. High quality and availability of data on the intermediary platforms;
- 2. Good design and usability of the platform system;
- 3. Avoiding mismatch by seeking citizen feedback or what information is of interest to them.

An Outer layer involving the macro context and ecosystem in which open data lies - political, legal, social etc. in order of priority.

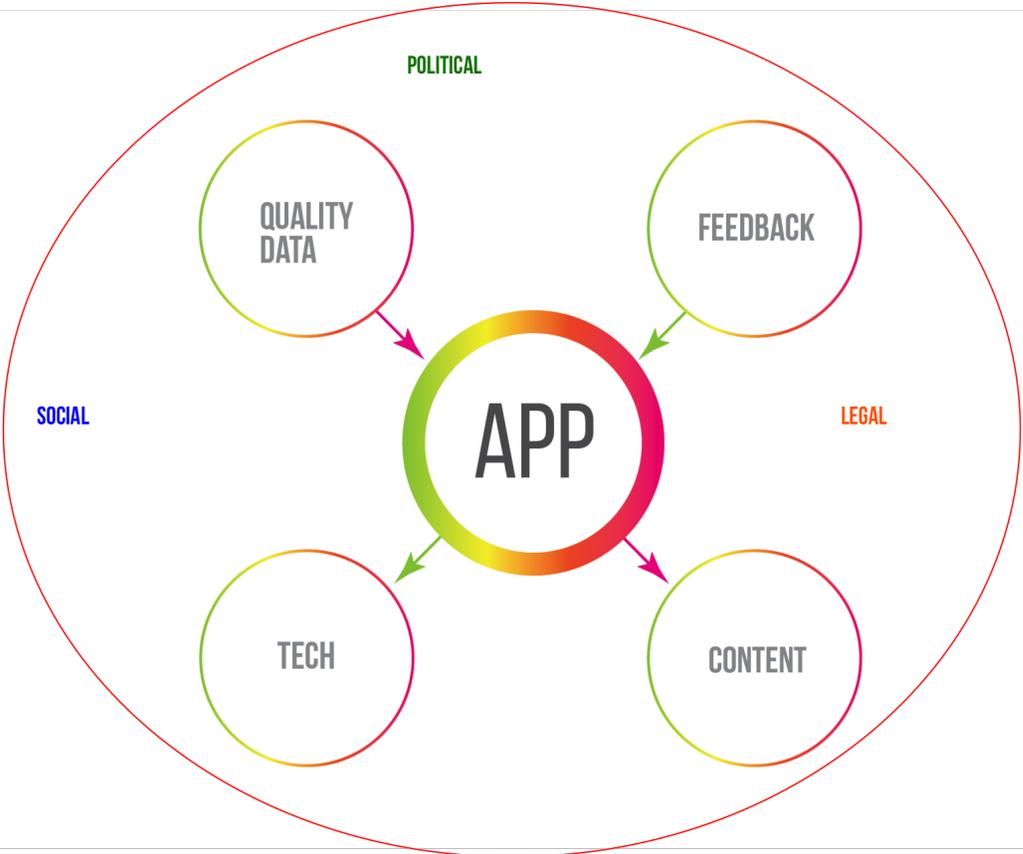


Figure 2 Framework of Ideal Open Data Applications and necessary input.