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Understanding the Kenya Open Data Initiative Trajectory based on Callon's Moments of Translation

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ABSTRACT

This study seeks to understand the existing interactions between actors of the Kenya Open Data Initiative (KODI), and how the actors' interests are aligning to achieve openness and transparency of government operations. This study is based on the Callon's moments of translation framework, which helps in describing the interaction between initiators of a network and other involved actors with the aim of aligning their diverse interests in order to achieve a common goal. KODI is comprised of a diverse group of stakeholders from government, private sector, inter-governmental organisation, and civil society. KODI has faced various challenges since its inception in 2011, some of which include lack of adequate resources, reduced support from some of the stakeholders, and a shift in government buy-in into the initiative. This caused the initiative to stall for a period of almost two years during the years 2012 and 2013, which suggests a disconnect in the interests of some of the key actors at the time. In this study, a description of the strategies applied by the network initiators to resuscitate the initiative is provided. This also includes a description of how the interests of the various actors were aligned to achieve a common cause. The study is explanatory and results in a practical contribution describing the strategies that can help in securing buy-in of an open government data initiative.

Keywords

Open government data, open data, moments of translation, problematisation, interessement, enrolment.

INTRODUCTION

The Kenya Open Data Initiative (KODI) is a donor-government driven initiative that was launched in July 2011 by former President Mwai Kibaki, with the aim of making government information freely accessible to all citizens from a single portal (Wokabi, 2012). Kenya was the 22nd country in the world, and the second country in Africa to join the Open Government Partnership (OGP) (Mutuku & Colaco, 2012; Open Government Partnership, 2011). OGP is a multilateral initiative that assists governments in making concrete and sustainable commitments aimed at promoting transparency, empowering citizens,

and fighting corruption. In 2011, Kenya was reported to be the first country in Africa to develop an open data portal (Open Government Partnership, 2011). Technology tools were embedded on the KODI portal to help in synthesizing and visualising the data in simple and open access formats, in order to facilitate easy access (Mutuku & Mahihu, 2014).

However, just one year after the launch, supply of open government data became a challenge. The former Permanent Secretary for the Ministry of Information and Communications, Prof. Bitange Ndemo reported that “We are not getting data from organisations because they claim to own it, even those that have collected the data using taxpayers’ money. We are working on a Cabinet memo that would legally oblige these ministries and government agencies to provide data” (Wokabi, 2012). This was mainly attributed to legal challenges emanating from the contradiction between the 2010 constitution (Article 35, section 1-3 on citizen right of access to information held by the state) and the Official Secrets Act (Mutuku & Mahihu, 2014). Fortunately, this legal predicament was resolved in August 2016, when President Uhuru Kenyatta enacted the Access to Information Act (2016). In addition, there was low access and utilization of the open government datasets that had been made available on the KODI portal since July 2011 (opendata.go.ke). The challenge that remained was how this act would be implemented, and whether the other political, historical and organizational issues discussed later would be resolved. This paper seeks to explain how KODI was institutionalized between 2011 and 2017 using Callon’s moments of translation framework. This framework is described in the following section, and later applied in analyzing the case of KODI.

MOMENTS OF TRANSLATION FRAMEWORK

Our study was drawn to Callon’s (2007) moments of translation framework to analyse KODI trajectory. This framework is drawn from Actor Network Theory (ANT) by Michael Callon, Bruno Latour and John Law. ANT is not a theory per se, because it does not explain why something occurs, but focuses on how something happens, providing a descriptive explanation of a phenomenon. It uses stories to explain “how” relations assemble or don’t, and the boundaries between order and disorder, including those where different orders intersect. It could therefore be referred to as a story telling toolkit, with a focus on the relations between the actors (Law, 2009, pp. 141–144).

Callon’s (2007) moments of translation refers to the process that an actor-network undertakes in an attempt towards domestication. This process involves defining actor identities, and negotiating boundaries of interaction. It comprises of four stages: problematization, building interest, enrolment and mobilisation. These stages are non-linear, which implies that they allow for overlap (Callon, 2007, pp. 57–78). They are described as follows:

- i) **Problematization** - The first step requires a focal actor to understand the other actors by defining their identities and selecting those whose interest are in line with the goal of the actor-network. Actors include non-human objects. For instance, Callon’s study (1984) on the domestication of scallops identified scallops, three researchers, and the fishermen of St.Brieuc Bay as part of the actors. The second step is the definition of Obligatory Passage Points (OPPs), which defines the admission criteria, which limits the actors who are allowed into the actor-network. It stands between actors and their individual interests, and collates these to form common interests that apply to all actors. Callon (1984) identifies the common interest between the three sets of actors: For the scallops it’s a matter of survival, the fishermen preserving their economic interests, and the three researchers advancing their knowledge (Callon, 1984). The third step is to identify necessary alliances that must be forged. Problematization therefore helps in describing a system of alliances between different actors, which helps in defining their identity with regard to what they want (Callon, 2007, pp. 57–78).

- ii) **Building interests (Interessement)** - This refers to the collection of actions performed by an entity in an attempt to impose and stabilize the actors it has defined in the problematization stage (Callon, 2007, pp. 57–78). It can also be described as the description of how allies are locked into place. For instance, the three researchers in the case of domesticating scallops and fishermen had to impose and stabilize the identity of the fishermen and the scallops. This interest is achieved by building devices which can be placed between them and other entities who want to define their identities otherwise (Callon, 1984). Part of the strategies used is introduction of incentives, which creates willingness among actors to overcome possible obstacles as they pass through the OPP. This is aimed at attaining a certain goal, which must take into consideration the inclination of the other actors. This results in the refinement of the OPP, which is also referred to as a trapping device. Its effectiveness is determined by how well it understands the goals of potential actors, and its ability to direct them towards achieving a common goal (Callon, 2007, pp. 57–78). These negotiations are not easy, as illustrated by Elbanna (2006), who conducted a study on the implementation of an Enterprise Resource Planning (ERP) system within a large international organisation. The findings suggest that actors interpret their interests in relation to others, and act based on their interpretations. This suggests that business plans will change as more actors (especially non-human) emerge (Elbanna, 2006).
- iii) **Enrolment** - This refers to a group of multilateral negotiations that accompany the interessement, with the aim of creating a sufficient body of allies who are persuaded to execute the roles defined for them (Callon, 2007, pp. 57–78). Enrolment involves the description of the multilateral negotiations and challenges that accompany interessement (Callon, 1984).
- iv) **Mobilization** - This refers to the process of nominating some actors as spokesmen for the various groups in the actor-network. This process is based on incentives that are negotiated with the actors, which are aimed at motivating them to overcome obstacles while pursuing the interests of the group (Callon, 2007, pp. 57–78). For instance, in the study conducted by Callon (1984), a few larvae are considered to be a sufficient representative of the entire population of scallops in Briec Bay. The sample is used by the researchers to negotiate their interessement, and what is found to be true for the sample is said to be true for the whole population (Callon, 1984). It also provides an explanation of how these spokesmen obtained the right to express and represent their group members. The success of the mobilization process determines the stability of the actor-network, which is characterized by the end of controversies. This results in institutionalization of actor's interests, as they have been aligned and accepted (Callon, 2007, pp. 57–78).

Callon's framework is based on one of ANT's key assumptions-- that both human and non-human actors, including technology, should be treated equally (Callon, 2007, pp. 57–78). This makes it favourable for IS based studies, including those focusing on technology implementation (Elbanna, 2006; Heeks & Stanforth, 2007; Macome, 2003). In this study, the use of Callon's framework was motivated by the assumption that ANT will assist in studying the interaction between social and technical systems, and explaining information system project trajectories, which is the core interest of this paper. This includes its ability to explain how the interests of the various actors shift over time towards a common goal/interest. Our literature review did not find any explicit applications to OGD initiatives. This paper will therefore provide a practical contribution on the application of Callon's framework. Application of this framework is provided after the methodology section below.

METHODOLOGY

This section describes the research methods adopted for this study which involves qualitative data collection, analysis and interpretation. Callon's framework is applied in shaping the ontological and epistemological structure of these methods. KODI was the unit of analysis for this study, dating back more than six years ago to 2011. This allows for longitudinal analysis and provides sufficient data for the application of Callon's framework. For instance, this initiative comprises of both state and non-state actors, and hosts numerous government datasets which have been characterized by varying supply and demand patterns over the years.

The decision to conduct a qualitative study over quantitative study follows the nature of the research question, which could not be answered using observations at the empirical level or variable/statistical-causal analysis (Danermark, Ekstrom, Jakobsen, & Karlsson, 2002, p. 175). Qualitative study is based on methods that allow for deeper understanding of a context within its natural setting. It focuses on the case study approach, which could be single or several for a given research. The case can be a person, institution, community, event or a process. It realizes the following objectives: to provide an explanation of causal relationships in real life scenarios that cannot be studied using the experimental approach, to describe an intervention in its context, to describe certain topics within an evaluation, to act as a meta-evaluation – a study of an evaluation study, and finally other objectives which could be aimed at broad generalizations of evidence (Yin, 2002). This research involves a single case study focusing on the institutionalization process of KODI.

This case study is comprised of various stakeholders including government agencies who are the source of data: the Kenya Bureau of Statistics (KNBS) that supplies national statistics, donor agencies supporting the initiative financially and technically, civil society organizations which help in creating awareness or consumers of open data, and implementing partners such as Strathmore University who are outsourced to perform various tasks for the government agency.

The researcher explored KODI from multiple data sources. Qualitative data was obtained from thirty-one face-to-face semi-structured interviews, and more than 12 documents sourced from either the stakeholders during interview sessions, the Internet including blogs and websites managed by open data stakeholders, and newspaper publications from Kenyan media houses. The data collection process commenced after obtaining ethics clearance from the Commerce Faculty Ethics in Research Committee, University of Cape Town.

The interviews in this study were semi-structured and personal, except for one occasion when two members of the KODI team at the ICT Authority preferred a joint session, since their work was interrelated. Prior to conducting the interviews, the researcher obtained consent via email from each of the participants to be interviewed and audio-taped. There was one participant who did not want to be audio-taped, but allowed the researcher to take notes during the one-hour interview. Another participant allowed the researcher to audio-tape only the first half of the interview, and to take notes in the other half. All the participants were issued with the interview questions prior to the semi-structured interview. There were different types of interview guides depending on the participant's role.

Document review consisted of documents sourced from various institutions focusing on KODI, and nine videos published on Vimeo by the Open Institute in Kenya. The videos consisted of personal interviews with the pioneering KODI taskforce members, and provided a detailed description of how the initiative unfolded, including expectations and recommendations from each participant. The videos were transcribed verbatim.

Thematic analysis was adopted as the method for qualitatively analyzing data, in the form of either transcripts or organizational documents and reports, with the aim of identifying and reporting emerging

themes or patterns (Braun & Clarke, 2006). The researcher derived themes from codes based on a five stage model developed by Fereday & Muir-Cochrane (2006).

THE CASE OF KODI VIEWED FROM CALLON'S FOUR MOMENTS OF TRANSLATION

This section analyzes KODI from the perspective of Callon's moments of translation, which also provides the structure for this section. The structure corresponds to the four moments of translation -- problematization, interesement, enrolment, and mobilization. This case is based on findings derived from qualitative data and thematic analysis.

Problematization

This moment of translation provides a description of KODI's focal actors and other actors. This includes their individual and shared interests and goals. These help in explaining the emerging alliances from KODI.

4.1.1 Who are the Focal Actors?

One of the focal actors for KODI was Prof. Bitange Ndemo, during his tenure as the cabinet secretary for the ministry of ICT. He served from 2005 to 2013, and spearheaded KODI from 2011 until his departure in 2013. Other focal actors were Kenya ICT Board (now Kenya ICT Authority) chief executive officer at the time, Mr. Paul Kukubo, and KODI's project coordinator, who each also resigned from their positions in 2013. The World Bank was also a focal actor, though it played a passive role by providing technical expertise and financial support. Therefore, 2013 was characterized by high staff turnover despite the availability of funding from the World Bank, which partly explains why the initiative came to a halt mid 2012 until 2014. After 2014, the initiative has not had an outspoken champion with political capital. However, the ICT Authority managed to employ a team of technical experts who have helped in resuscitating the initiative and creating awareness among government agencies. This includes rehiring the former project coordinator on the same role as a consultant. Other roles included a project manager (who never left but could not deliver without the rest of the team), an open data geospatial technologist, a data analyst and a statistician.

4.1.2 Who are the Other Actors?

Code4Kenya, which was funded by the World Bank and the Africa Media Initiative to run an outreach programme in support of intermediaries working with government data to develop applications and services. Code4Kenya implementation partners included three local media houses (the Star, The Standard, Nation Media Group) and a civil society organization (Twaweza). iHub Research, which helped conduct research on the impact of the Open Data initiative, utilized funding from the Canadian International Development Research Center and was coordinated by the World Wide Web Foundation. Open Institute (an open data think tank) and iLabAfrica (a technology incubation hub by Strathmore University), provided technical advisory and became implementing partners for some of the open data projects run by either the Kenya ICT Authority or Kenya National Bureau of Statistics (KNBS) --both of which were financially supported by the World Bank (Mutuku & Mahihu, 2014). Socrata, a US software company, was commissioned by the World Bank to provide the open data software platform. Other actors include government ministries and agencies, researchers, policy makers, the ICT community including software developers, publishers and media agencies within the general public and private sector.

KNBS is said to be a co-partner with the ICT Authority, though this study identified a disconnect between the two agencies. For instance, KNBS seems to be duplicating effort on data visualization, through the development of their visualisation portal - knbs.or.ke/visualizations. In addition, the two

agencies are placed under different government ministries, which presents bureaucratic complexities. KNBS is placed under the ministry of devolution and national planning, while ICT Authority is placed under the ministry of information, communications and technology. This may explain why the mandate on open data seems to overlap between the two agencies.

4.1.3 What are their Individual Interests?

- The World Bank's main aim is to promote transparency and accountability in government. The open data initiative empowers citizens to keep the government in check, which results in better utilization of funding (tax revenue and donor aid) and government resources.
- The developer community found this initiative to be a good business opportunity. Their main target was the price money from innovation challenges. They cited lack of interest to develop apps from a commercial perspective (for sustainability) following the lack of effective channels to request new datasets or suggest modifications (resolved post 2014), and the lack of timely release of data.
- The media, also referred to as the fourth estate, is slowly moving towards fact driven journalism. The data fellows programme, which was conducted by Code4Kenya, could be said to have had a positive impact, since one out of the three media houses (the Star, The Standard, Nation Media Group) managed to establish a data journalism unit successfully (Mutuku & Mahihu, 2014). The Nation Media Group (NMG) setup a data desk in mid -2015, and created a weekly column on its daily nation newspaper known as Newsplex. This column is still being published to date, and has attracted many readers and helped in shaping government policy. The ICT Authority has also maintained a blog referred to as the significant number, with the aim of creating awareness on how data can be used to tell compelling stories, and to also inform the citizens and policy makers through these stories.
- The researchers seek to advance their knowledge on open data and use this information to create new meanings which can help in identifying innovation gaps and informing policy.
- The general public's aim is to keep the government in check and use this information to make better decisions such as who to elect in public office, and provide more informed insights to government if participatory channels exist.
- The private sector can use this information for their competitive advantage, finding opportunities to give back to society through corporate social responsibility initiatives, or understand how certain actions or inactions within their control affect the public.

4.1.4 What is the Common Interest/Obligatory Passage Point (OPP)?

KODI received approval from the Head of State in 2011, not because they foregrounded it as an initiative that seeks to promote transparency and accountability, but because the then cabinet secretary for information and communication foregrounded it as an initiative that seeks to create employment for the youth and support innovation. This remains the common goal as government would otherwise treat the initiative with greater caution. As an illustration, some of the advisors to the then President Mwai Kibaki interpreted open data as WikiLeaks, which was meant to destabilize the current government establishment. The cabinet secretary, supported by KODI volunteer representatives had to make a presentation to the President and his advisors to correct this assumption. It is after this presentation that the President accepted to launch the initiative. These negotiations were settled on youth employment and innovation support as the common interests, and not transparency and accountability, which is the main vision of the Open Government Partnership (Open Government Partnership, 2011).

4.1.5 What alliances are emerging?

- There is an alliance among the civil society, which has achieved several milestones --most notably, the Access to Information Act. This act was their initiative, which started in 2011 and until 2016 when the president signed it into law.
- There is also an informal open data community, which consists of actors from various sectors including government. The main contribution has been organization of events which bring the various stakeholders in one room for dialog. Some of these events include 2016 Kenya National Workshop on SDGs roadmaps and data ecosystem (organized by deputy president office), East Africa Open Data Festival (organized by the Africa Open Data Collaboratives (AODC) and funded by Kenyan organisations), and the 2011 KODI launch (organized by the ministry of ICT but supported by volunteers from various sectors).

Building Interest (Interessement)

This moment of transition gives an account of the strategies applied in sharing the interest of KODI with the various actors, with the aim of making them champions that will embrace the initiative either as advocates, active suppliers or users of open data.

- Launch of open data initiatives as an effort to create awareness and secure buy-in. The 2011 launch, for instance, informed the public about this initiative that increased page views on the portal.
- Door-to-door sensitization campaign by the KODI team targeting government agencies. There was a campaign in 2014 and part of 2015, which saw a rise in the number of active government agencies from 4 to 31, and an increase in the number of datasets from 262 to more than 680. This resulted in a 10 million increase in page views setting a record of 54 million views. The portal has since become the most frequented government site in the country. However, it is important to note that some of these datasets consisted of those submitted by government agencies between 2012 and 2014, but which had not been uploaded due to lack of staff.
- Data fellows program. This is an initiative of the KODI team, which deploys data fellows with the mandate of building capacity and awareness among government agencies. They assist the agency in communicating policy and training government staff on how to curate and publish data, and also how to manipulate and visualise large datasets. This increases buy-in as agencies feel better equipped to curate data, publish it, and even make meaning out of it. This program had also been run previously, as reported by Mutuku & Mahihu (2014), though the target at the time was media agencies (the Star, Standard, Nation Media Group) and the civil society organisations (Twaweza) as a mass communication strategy leveraging on their wide audience and grassroots communities. However, this did not succeed as the media houses never put up the “hoped-for” mass campaigns on their channels. They only went as far as placing links on their websites without any further awareness efforts (Mutuku & Mahihu, 2014).
- Significant number blog. This is an initiative by KODI team, which involves the publication of a blog explaining a phenomenon using a significant number identified from one of the datasets. In particular, the team identifies a dataset, analyses the data and points out some significant numbers that they find interesting through the blog. For example, they pointed out that the highest number of road fatalities in Kenya occur at 6pm. This is odd because this is the time that traffic is at a gridlock. Nairobi, the capital city of Kenya, has the highest traffic and contributes the bulk of road accidents in Kenya to about 50-60%. Considering that, why are many people dying when traffic is very slow at 6 p.m.? (ICTA, 2016). These are interesting questions to grapple with and demonstrate how the value

of open data can be derived through stories. This is part of data-driven journalism, though it does not restrict non-journalists from writing such compelling stories.

- Request a dataset feature on KODI portal. This allows citizens to request for datasets. It also assists KODI team in determining what datasets people are interested in. They then use this as the criteria to determine which government agencies to engage with in obtaining this data, as well as which agencies to prioritize for the data fellows program.
- Open data workshops, bootcamps and conferences. The most common workshops are on data journalism, with a focus on journalists. The bootcamps are mainly targeted at software developers, with the aim of creating innovative applications out of open data. The conferences target all stakeholders, which helps in creating a platform to learn new innovations, network, and share experiences and ideas.

Enrolment

This moment of transition seeks to explain how KODI secured buy-in by aligning the interests of the various actors, and how these actors were persuaded to implement the roles defined for them. The data fellows program has helped in building confidence among government agencies because one of their own can curate, publish and visualize data. This implies that they can now accept their role in confidence, knowing that there is a team among them who can implement the tasks defined for them. ICT Authority's KODI team provides continuous support to the data champions within these agencies, to help in build additional skills and refresh knowledge in cases where there is uncertainty or lack of confidence.

Traffic on the KODI portal has acted as an incentive for some government agencies to publish their datasets there since they receive more viewers and feedback, compared to what they receive on their agency portals. This supports KODI's initial goal of hosting all government data on one portal. This implies that additional campaigns by KODI targeting the public will result in further buying from government agencies based on the portals popularity.

Mobilization

This moment of translation explains the activities that KODI actors have undertaken as legitimate spokespersons of the initiative. As observed in events such as the East Africa Open Data Fest and the Kenya National Workshop on SDGs, Roadmaps and Data Ecosystems, the private sector, non-governmental organizations and civil society organizations most recently concluded support for this initiative. Their support is either through funding, coordinating and marketing the event, or even presenting or leading discussion forums during these events. These contributions are a manifestation of an actors' willingness to serve as a spokesperson of KODI. For instance, funding often comes with acknowledgement, which results in the funders talking about the event/KODI in public or private, both of which qualify as an advocacy (spokesperson) role.

DISCUSSION

This study aimed at understanding the existing interactions between actors of the Kenya Open Data Initiative (KODI), and how the actors' interests are aligning to achieve openness and transparency of government operations. Problematization helped in describing the existing alliances between the various actors, and defining their identity with regard to their interests in KODI (Callon, 2007, pp. 57–78). However, to secure buy-in from government, these interests had to be aligned to suit government interests, which are innovation and job creation for the youth. This confirms the assumption by Elbanna

(2006) that business plans will change as more actors emerge. In this case, enrolment of the executive arm of government required a revision of the business plan to focus on objectives that aligned well with government.

This also contributed to enrolment efforts, which are meant to create a sufficient body of allies to help in implementing the goals of the initiative (Callon, 2007, pp. 57–78). Other actors, especially government agencies were enrolled through awareness campaigns such as the 2011 launch and coding bootcamps, data fellows program by KODI, and door-to-door sensitization campaign by KODI. Demand of open data was promoted through request, a dataset feature on KODI portal, and online publication of open data-driven stories which served as examples on the potential value that can be derived from the existing datasets. These activities resulted in further mobilization. The actors responsible for implementation of KODI were official employees of the ICT Authority. There were other stakeholders from other government agencies, civil society, private sector and intra-governmental organizations like the World Bank who actively participated in open data activities including workshops, bootcamps and conferences. This study suggests that mobilization also involves voluntary nomination to serve on behalf of the community and is not limited to the role of a spokesman.

This study was limited in explaining how the mobilization process unfolded since it was based on an account of past activities, unlike Callon's (1984) study in Brieuc Bay, which was ethnographic, allowing the researchers to observe and interact with the study's participants in real life.

CONCLUSION

Analysis of the Kenya Open Data Initiative using Callon's (2007) moments of translation framework helps in revealing the complexities of implementing and institutionalizing government initiatives. It also suggests that government initiatives require flexibility, since there are unexpected outcomes, especially regarding how certain actors interpret an initiative. It also reveals that government agencies will at times have overlapping mandates, and the process of aligning such operations requires skillful negotiations in search of common interests (interessement) and enrolling various actors to implement the roles allocated to them.

This study also suggests the need for further negotiations with the aim of ensuring sustainability in demand and supply of data. There is need for top management to support existing engagement mechanisms to ensure that citizen demands are attended to by making the necessary changes or supplying certain datasets. This recommendation follows the observation that government had reservations in releasing some datasets. The private sector and the youth need to be encouraged to create new services and products based on open data. This could be done by helping them to market their products/services through mass media. Government can help in forging partnerships with media houses and civil society organizations.

Possible areas for further research include assessing the impact of open data initiatives. This will help in justifying investment, resulting in further support and interest by intermediaries. It will also help in ensuring sustainability of the initiative based on impact assessment findings. This implies devising alternative strategies when the findings are unfavorable.

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