

# Institutional Information and Knowledge Management for Development: The Case of Nairobi County Council, Kenya

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## Abstract

Key construction professionals and decision makers in the housing sector in Nairobi County require adequate and relevant information for work tasks and policy formulation for solving housing deficit. However, their efforts are sometimes thwarted due to lack of well-organized and accessible information. This paper investigates the difficulties that construction professionals encounter while accessing information at the Nairobi City Hall. This study was conducted between 2009 and 2010 using 39 Key construction professionals and 30 informants at Nairobi City Hall. The research utilised the Grounded Theory method of data analysis to generate research results. Findings indicated that improper handling of information materials makes the access of building information at Nairobi City Hall very difficult. Secondly the research established that decision makers at Nairobi City Hall do not emphasise on the need for quality information management in the institution. The study recommended that the methods of accessing and disbursing of the information to the users be re-designed.

**Keywords:** Housing information, Information Access, Nairobi City Hall

## 1. Introduction

Recent rapid information development and knowledge management trends have made it mandatory for all institutions serving the public in whatever form device better methods of documenting and managing the information in their custody. Institutions in the Sub-Saharan Africa countries are even more pressed to come up with better methods of documenting and managing information so as to catch up with contemporary institutions in the rest of the world and also serve the development needs of the continent. Although there is significant change in the way information is being managed in institutions of higher learning in Africa in the past two decades, the situation is not reflected in specialized libraries that serve other sectors that play a significant role in social and economic development. Several studies conducted in Nairobi reveal that information in public institutions is haphazardly stored, improperly preserved, and inaccessible to the public as well as to the institutional managers (Wamukoya 2009, Abonyo 2014). This is in spite of the fact that both the public and management users rely on the information to make crucial decisions regarding the development of these institutions. This research observes that, for the countries of the region to move forward, there is need for professionalism in the art and science of knowledge management including record keeping, institutional repository, preservation and dissemination. This research demonstrates that the Nairobi County Hall has a long way to go in the way it handles information on urban management especially on matters pertaining to human settlements.

### 1. 2. Background Information

In the past four decades the issue of housing construction in Nairobi has generated a lot of controversies. During this period the politics of the city have revolved around housing the majority poor, high cost of land and irregularities in land use, among a host of other issues. The public has directed wrath on city politicians and managers complaining that some developers do not observe city building bye-laws when erecting residential and commercial houses. The members of the public simply cannot comprehend who in the Nairobi City Hall is responsible for managing emerging infrastructure in the city. This research shows that the situation has reached that level because the city managers cannot rapidly respond to such matters because the information in their custody is poorly stored and hence they cannot synthesize quickly as expected and give solutions in time.

The Nairobi County government mandates the City Hall construction professionals to process all building plans, manage social housing matters, collect county revenue, and address county environmental issues. However,

although members of the public and housing professionals make daily enquiries on matters related to the above issues, City Hall is not professionally organized to quickly give available information to the stakeholders.

To begin with City Hall is a custodian of all information related to human settlements like city planning, land use, environment impact assessment, social housing administration, revenue collection, city infrastructure, water and sanitation, and city bye-laws. However, this wide and varied information is stored in printed format and kept in a non-organized way. Users cannot therefore easily retrieve this information yet they have to make daily decisions say in asset transactions and obtaining accurate facts about the building industry. This research recommends that City Hall should professionally manage the information under her custody so as to meet the needs of the public and members of the building profession.

This research shows that it is incumbent on the city managers to reinforce the building sector information and knowledge management in order to enhance public service delivery in the housing sector. As it stands today building professionals waste a lot of man hours trying to piece together information that is stored in diverse departments of the City Hall and other institutions around Nairobi County. The city managers may be required to digitize and reorganize all information in a single documentation centre in computerized formats. Such an exercise will ensure that all categories of users will not waste time and City Hall managers will arrive at critical decisions in good time.

This research was carried out to give an insight on how City Hall has lagged behind in institutional information and knowledge management. The overall objective was to assess the problems of information access at the City Hall and recommend suitable measures to overcome the challenge. In particular the research was interested in establishing:

- The information needs in the built environment;
- The methods used by members of the built environment to access this information;
- The difficulties they encounter in accessing this information; and
- The recommendations that the professionals think would improve the situation.

### **1.2. Assumptions**

The study assumed that City Hall has, throughout the history of the city, generated and kept in custody all information pertaining to housing construction in Nairobi. It also assumed that this information is not well organized for easy accessibility by the public and building professionals.

### **1.3. Significance of the study**

Housing information is an integral part of the development of the housing industry. The City Hall is one of the institutions in Kenya where housing information is stored and hence such information should be sought and provided from the institution. If City Hall has to play its significant role in the development of Nairobi County housing sector, then it should avail the information in an easily accessible manner.

## **2.0 Literature Review**

### **2.1. Organization of Institutional Information**

Smith (1971) recognizes that housing is both a technical and social subject and hence all experts in various areas of housing specialization require information to construct necessary baseline data in order to make progress in their work. There are several public institutions in Nairobi that are a custodian of housing information and users expect it to be organized and stored in a retrievable manner. Secondly, organization employees are able to make informed decisions on matters dealing with institutional mandates if information in their custody is stored in an organized manner. In the case of the City Hall, the institution employees and construction professionals can adequately advise the city population on matters pertaining to housing and general environment if they access the information in good time. At the time of this research, these two groups of professionals were facing a myriad of challenges because of the rapid population expansion and poor supply of houses in Nairobi. Recent studies [World Bank, UN- Habitat] have shown that Nairobi is among the world cities that face acute housing shortage with nearly 60% of her population living in informal settlements. Housing development in Kenya has a shortfall of 150,000 units per annum in urban cities (Sessional, paper No.3 Ministry of Housing, 2004). This is notwithstanding that housing is a fundamental right since 1948 when the UN declared it so.

However, the desire by the Kenyan government to provide descent houses for the people of Nairobi from 2004

have seen the generation of massive housing data that is available for use by other players in the city economy. But this information is still poorly managed and users find it difficult to retrieve it so as to make informed decisions about various projects. City Hall employees are also blocked from enhancing their intuitional functionality for working purposes. This research investigates issues of institutional information management at the City Hall.

## **2.2. Housing Construction Information**

Since 1963 up to 2010 Kenya has operated as a unitary state with a central government with its headquarters in Nairobi. However with the promulgation of a new constitution in August 27, 2010 the country remained a unitary state but also devolved some government functions to 47 counties across the land. Some of the functions that were devolved to the counties include housing and planning. But considering that more than 55 percent of the Kenyan economy activities take place in Nairobi County, most of the construction works take place in the city. The City Hall thus processes a lot of information on city planning and also stores all building plans of projects that it approves. As mentioned in the previous section Nairobi is running a deficit of about 150,000 houses per annum and City Hall is pressed to manage and store housing information so that is accessible for quick utilization in design, planning and construction so as to fill the gap. Similarly, construction professionals at City Hall also require ease of access to this information so that they can satisfy the general public.

A previous study has shown that access to information is the most crucial aspect in performing any given task; and the manner in which professionals in an institution access information in their custody determines how they serve their clients (Abonyo, 2002). Many organizations face setbacks due to failures that arise from inaccessibility of information. City Hall is therefore challenged to provide county government officials with housing information that cover social, technical and economic matters. This research investigated how construction professionals use the available information at City Hall to advise Nairobi residents.

## **2.3. Housing Information at City Hall**

Housing construction in Nairobi started in 1900 with the coming of the Kenya-Uganda railway. At the time, the total population of Nairobi was less than 8,000 inhabitants comprising European and Asian immigrants as well as indigenous Africans (Rader, 1966). Since then, and particularly from 1940s when the city embarked on a massive social housing development program for all racial groups (Oglove, 1948), City Hall has generated and accumulated a lot of information on human habita. The 1940s saw Nairobi expand as a capital with the construction of roads, offices, hotels, markets, learning schools taking place (Ogilvie, 1948). Most of the construction at the time was done in a professional manner but the information that was generated is still up to date improperly stored making it difficult to access it.

It was not possible to quantify the amount of housing information held at the City Hall during the research period because the institution was gutted by fire in 2004, but the many piles of paper in all tables and corridor spaces testified that the information is enormous. However, the information is yet to be organized and stored in a friendly user manner. Field observations also revealed that the land register for the entire Nairobi County is kept in the registry where it is only accessed by senior City Hall officials in the company of the officer in charge of the registry.

### **2.3.1. Housing Politics in Nairobi**

City Hall is a public institution that was established to serve the needs of the public (Wamukoya, 2009). However because of its mandate to provide land for housing development, City Hall has been embroiled in the politics of the city and by extension the whole country. City Hall serves over 3 million Nairobi residents. The county has mixed housing development – largely private and government owned housing. The county government is also in charge of social housing development which began well before the independence of the country. However the few government housing units in the city only serve senior government civil servants. Majority of the other residents live in legally or illegally erected houses by individual or corporate developers. These houses are of various categories with the rich living in posh estates and the extreme poor living in slums that are not served with necessary basic amenities like sewer lines, water and electricity.

Most of the developers in the slum areas and other low income areas hardly observe the existing construction bye-laws. Again majority of the slum dwellers have been pushed to the corner by the huge up market buildings that cater for the richer population. They therefore live in much squeezed areas that are inaccessible during the

rainy seasons and devoid of fire exits. Their lands are also time and time again preyed upon by Nairobi land grabbing sharks who have gained notoriety for their activities in the past two decades.

#### **2.4. Information Management vs. Knowledge management**

A good organization draws its strength on how it manages information in both the paper and electronic versions. According to Wamukoya (2009), “information management entails the combination of a range of skills and resources from amongst library science, information science, information technology, records management, archives management, knowledge management and general management”. He describes information management in an organization as an “*efficient plan by the relevant organ to collect, organize, maintain, use and control as well as disseminate and dispose information ensuring the value of information is identified and used to the fullest extent to meet the business objectives of that organization*”.

He on the other hand describes knowledge management as a “*process of creating, storing, sharing and re-using organizational knowledge or know-how to enable the organization achieve its goal.*” In other words, the concept that knowledge is power can only be realized if information is organized and accessible to others wishing to make use of it. In any case it is only through knowledge mapping that we can prevent other users from trying to recreate the same knowledge due to ignorance that the same knowledge does not exist.

But this is only possible if large organizations like City Hall which generate and receive massive records embrace record keeping. Records management according to ISO 15489-1(2001) is the management of records for efficient creation, receipt, maintenance and disposal including the process of capturing and maintenance of evidence of information about a business. It is therefore recognized that the use of records is a valuable source of evidence more so on matters of housing development.

Nguyo, (1988), Aligula, (1995) and Masu, (2006) have done some studies on housing construction management while Abonyo, (2002, 2013) has done some work on housing information. These studies conclude that the need for good records keeping in regard to information in the construction sector cannot be over emphasized.

#### **2.5. Identification of Information Needs**

Identification of information needs is essential to the design of information systems in general and the provision of effective information services in particular (Lingam & Devadason, 1997). The two researchers propose the importance of adopting various methods in information gathering in order to determine the various factors that influence information needs. This study adopted the Grounded Theory approach of data analysis to arrive at the results. The research was however premised on the Needs Theory and the Theory of Uses and Gratification.

#### **2.6. Needs Theory: Maslow’s theory**

The general theory on human needs was first developed by Maslow in 1943. The theory however became popular in the 1960s when social science researchers employed it to understand human needs. In 1980 researchers at the International Council of Building Research and Documentation (CIB) found it suitable for their work and in the same year members of the built profession argued that a human being required housing as a need. The CIB reiterated that “man does not fulfill his needs so haphazardly”; that the needs assume a defined order forming a hierarchy. Maslow’s philosophy of needs theory is used here to explain the professionals’ need for information to solve their daily tasks (self-fulfillment).

#### **2.7 Theory of Uses and Gratification**

McQuil and Windhal (1987) argue that there is a relation between use for gain and use for mere satisfaction. This theory was chosen because there are unique information needs for every user community. The theory is mainly employed to explain the reasons why certain things happen in a certain way and not any other. For instance, an information seeker will only select what is useful and satisfying to his needs.

### **3.0 Methodology**

This paper presents data collected at the City Hall in Nairobi, Kenya between 2009 and 2010. A semi-structured questionnaire containing open-ended questions was administered to 39 respondents comprising 7 categories of professionals and 30 support staff working at the City Hall on a face to face method (table 1). The approach gave the respondents room to express themselves and also facilitated dialectic data collection. Notes from the data were reviewed and continuously compared in order to aggregate the emerging themes. The resulting themes were

coded and organized using Microsoft Excel and then exported to rich text format in Microsoft Word to sort out their similarities and differences.

This research was only interested in qualitative data. The method was found suitable because of its flexibility as it allowed the researcher to incorporate various methods of analysis which made it possible to tie well with other techniques of analysis (Dey, 1993). The research also chose the method because it accommodates human experiences relating to the broad research purpose (Tesch, 1990); it does not divorce the research from the phenomenon of study; it deals with human feelings, although humans do not always act predictably or logically; and it is context bound.

### 3.1 Population

The research used purposive sampling method to identify 39 building professionals, including architects, engineers, quantity and land surveyors, planners, and environmentalists and 30 informants including field officers, technicians, librarians, social workers, and executives at City Hall. Sampling was skewed and done purposively using a list of employees obtained from human resource department. The departments of city planning, engineering, survey, environment, research, records, public health, revenue collection and social services participated in the study (table 1).

**Table 1: Distribution of categories of professionals interviewed at City Hall**

Category of construction professionals	City Council of Nairobi
1. Architects	3
2. Engineers	7
3. Quantity Surveyors	4
4. Land economist	10
5. Planners	12
6. Environmentalist and building inspectors	2
7. Lawyers	1
<b>Total</b>	<b>39 professionals.</b>
<b>Several other support staff (30)</b>	Skewed for those handling and working with construction information.

**Research Data: 2010**

### 3.2 Data Analysis

The method of analysis was borrowed from grounded theory method (Strauss & Corbin, 1967, 1990). This approach builds on the answers provided by respondents which are supported by a theoretical framework to bring meaning out of concepts that are then developed in three stages of coding: open coding, axial coding and selective coding. This last stage of coding is analyzed till saturation is reached to create meaning out of theoretical prediction. The theory evolves during actual research and does this through continuous interplay between analysis and data collection. The analysis therefore begins from data collection stage and is analyzed continuously by selecting codes that correspond with the answers and meaning to the used theories. In accordance with the themes there were constant comparisons so that the analysis of data was not speculative (fig. 1 below).

In social science research, it is generally accepted that researchers who use GT technique do not necessarily have to test or verify any preconceived hypothesis. They on the contrary develop new theories based on systematic collected evidences. Grounded theory method is an approach that includes elements of qualitative interpretation of human thinking and sense made out of the thinking. This is recognizable in language use to convey meaning *verstehen*, (Burrell & Morgan, 1979). In this case the researcher inclusively used the views of the professionals to make decisions on the need to improve the management and access of information at the City Hall.

## 4. Results

### 4.1 Information Needs

All professionals and informants said they required information at the County Hall to facilitate their work. The professionals needed the information in order to advise their clients whereas the informants needed it in order to advise their seniors.

As narrated by an engineer from City Hall

“I need information on population that we serve while building roads and bridges that pass around the estates (grid).

I need to know the size of population and the types of building materials suitable for road and housing constructions...

We must also understand the movement pattern of the people living around *Dandora Estate*, depicting how they access markets and where they catch their transport ... this we do by working with planners in order to assist these population in their movement...

Besides we know City Council regulations and what the government wants...

We work with our surveyors to survey the areas and confirm the title deeds ... for housing and other land use”

### 4.2 Views of Professionals who collected Housing Information from City Hall

Majority respondents said they used all available methods to get information from City Hall and other relevant institutions. The methods included use of telephone, internet, and physical visits to the relevant ministries, the Kenya Bureau of Statistics, the relevant libraries, and map centers.

This research also wanted to establish the kind of information the professionals sought at the City Hall. They said they sought information dealing with city building bye-laws, population statistics, housing statistics, building materials, building designs, environmental impact assessments, engineering, health, and land use. Majority of the respondents complained that they encountered a lot of problems in accessing the required information. All respondents said the information was not managed in a professional manner. They complained that the information was not properly stored, and there was no proper system for keeping and managing records. They said that building plans that they submitted for approval were kept at the officers' desks and they needed to walk to the desks to find the responses of approval committee. Information kept in the stores was not classified and only those who managed it could retrieve it. The respondents also complained that all land records were handled by a single officer. Again all record stores were full which explains why some records were kept on the floors along the corridors.

All respondents also complained of time wastage at the City Hall because information is not centralised. For instance, an officer who requires information on maps has to physically travel to the map institution which is a distance from City Hall to do a search. The same is true when one seeks information on housing, population, and cost indices statistics. In short there are no documentation centers in the departments to cater for information needs. There also are no information managers to manage information gathered by the county government, which meant that a lot of time was allocated to meetings instead of allocating it to real practical production.

The research asked one respondent whether City Hall provides them with the relevant information in an easy to access manner:

**“...The knowledge that is generated in this organization such as building plans and projects reports are kept in a store, and in individual officers cupboards...This does not make an open to access to information...**

**It creates hoarding of information...”**

## 5. Summary

This research established that all the respondents and the informants were of the view that the City Hall should fund information documentation because Nairobi is growing into a metropolis and the situation could overwhelm the officers if the management of information remains haphazard. They also proposed that City Hall be IT compliant to ensure sharing of information both at the internal and external levels through the internet. They said this could reduce the queues made by people seeking information at the City Hall and also free the officials of the institution to do other work.

The respondents also recommended that City Hall should craft a policy that would make it easy for the staff

members to share information. They noted that construction professionals and members of the public who seek information at City Hall waste a lot of precious time as they are always asked to check the information they seek in the next office - a cycle that hardly ends. They also said that the county government needs to train its staff on information management and dissemination.

The respondents complained that due to poor documentation and storage they were unable to access past and current information which made their work suffer in terms of scheduling. They also said that there was red tape in accessing information at City Hall and that some competitors also organized with the staff at the institution to hoard some materials.

This research also established that internal information at the City Hall was internally accessed through meetings and memos. This meant a lot of time was allocated to meetings leading to waste of time.

The tacit information at the hands of individual officers was not harnessed and incorporated into the City Hall records. All the knowledge that was generated by the individual officers who attended local and international conference or published in local and international journals remained in the hands of the officers. Field information was in the hands of the field officers and they were not obligated to share it. The field officers were at liberty to give the information in verbal or written form. Users of such information are put in precarious positions because they have no control of the tacit information.

## 6. Conclusion and Recommendations

This study was an effort to fill the gap in understanding the importance of institutional knowledge. It shows that knowledge and information play a vital role in an organization in terms of speeding all tasks processes. The study found that the generated intuitional information is vital in making baseline data to allow for rapid work progress and ease burdens on experts but this was slowed by lack of organised information. The employees at the City Hall could also not give informed decisions on matters dealing with their institutional mandates and businesses because of the same limitations. The research therefore recommends the carrying out of further research on institutional information systems and knowledge mapping for the benefit of City Hall and all housing stakeholders in Nairobi.

### Poor records management at Nairobi City Hall



Source: Research Data 2010

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