

An Appraisal of Statistical Data Management in Nigeria: A Case for Reliable and Effective Statistical Information System

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Abstract: The primary and continuing task of national statistical system is to collect, compile, store and publish statistics. This task however, seems unachievable because of the enormous problems faced by the Nigerian statistical system. This study attempts answering the question, Does the existing structure satisfy the requirements of a national statistical information system? In answering this question, the study appraised the existing system and ways of improving it.

Key words: National statistical system, data management, information system, statistical data, information technology, official statistics

INTRODUCTION

Data management is a major driving force in the ongoing Information Technology (IT) revolution. Data comes in many formats, serves many uses and passes through many corporate processes. Information management is both a strategy, driven by customer needs and an infrastructure, shaped by technology, for handling and distributing information. Information management crosses disciplinary and administrative boundaries.

Properly managed information can be combined and interpreted for new understandings of earth and biological processes and has multiple uses across disciplines in government, the private sector and the general public.

The general attitude towards Nigerian statistical data is that they are unreliable and unusable. This is a sad and unnecessary situation which must be changed. The size of a nation's product is partly dependent on the knowledge (information) incorporated in that society. A special part of this information is of a statistical nature, that is, it is computed from a set of collected observations on individuals and their decision behaviours. Some of the decisions made in real life and their consequences depend largely on this information. Nearly always, the consequences of an action depend on uncertainty. In technical jargon, a decision-maker under uncertainty is regarded as playing a game with Nature. Unlike a real life game, the opponents' moves are not seen, hence the uncertainty about Nature's states. With the help of the relevant numerical (statistical) information, some estimates of the uncertainty about the states of Nature can be made. This is the major role of statistical information (Adamu, 1978).

In experimental sciences, experiments are performed by researchers who collect relevant data and make estimates about the states of Nature before any practical action is taken. As a result of this continuous process, predictions are usually reliable in these sciences. This approach is not feasible to the same degree in the non-experimental sciences or in business or government, even though the need for supporting numerical information is important, owing to the complexity of decision-making. Since, the numerical information in non-experimental sciences is an important pre-requisite for decisions that are complex, the problem of collecting, collating, summarizing, storing and retrieving statistical data becomes the more important. This kind of activity has its peculiarity. It touches on a sensitive area, as it involves collecting numerical information not only on the human population and the related institutions but also on their social and economic activities (transactions or decision behaviours). It is an impossible exercise for private agencies or individuals. Hence, only government agencies backed by legal provisions can provide the appropriate climate with the confidentiality required by the people.

The set of activities involved in the collecting, collating, storing and retrieval of numerical data is inter-related, involving people, materials and equipment. For various reasons there is need for the national statistical system to be properly organized. Firstly, official statistics have an important role to play in both business and governmental decisions. Secondly, because of the quantity and complexity of the data, the statistical information system must be large, both in terms of design and management. Thirdly, as mentioned above, the sensitivity of the sources and the resulting official

statistics do not only necessitate the production of the data by a government agency but also required proper organization.

As we have seen, statistical information is required for making complex national decisions. In this age of planning, particularly in developing countries, formulation of a set of goals, followed by a well thought out programme for execution is of the utmost importance. Statistical information provides the backbone for the planning and execution of the programme and subsequently the realization of the set of national goals. One of Nigeria's main problems in achieving her goals is the inability of her inadequate statistical system to cope with the production of reliable statistics required at various levels of governmental decision-making.

Planning a nation's economic and social development is a complex and difficult process involving constructing, executing and checking interrelated sets of decisions.

There are two basic issues of a national statistical system-its design and management. In many cases, information management has meant deploying new technology solutions, such as content or document management systems, data warehousing or portal applications.

These projects have a poor track record of success and most organizations are still struggling to deliver an integrated information management environment. Effective information management is not easy. There are many systems to integrate, a huge range of business needs to meet and complex organizational (and cultural) issues to address.

EXPLORING INFORMATION MANAGEMENT

Information management is an umbrella term that encompasses all the systems and processes within an organization for the creation and use of corporate information.

In terms of technology, information management encompasses systems such as:

- Web Content Management (CM)
- Document Management (DM)
- Records Management (RM)
- Digital Asset Management (DAM)
- Learning Management systems (LM)
- Learning Content Management systems (LCM)
- Collaboration
- Enterprise search
- Many more...

Information management is, however, much more than just technology. Equally importantly, it is about the business processes and practices that underpin the creation and use of information.

It is also about the information itself, including the structure of information (information architecture), meta data, content quality and more (Robertson, 2005).

Information management therefore encompasses:

- People
- Process
- Technology
- Content

Each of these must be addressed if information management projects are to succeed.

INFORMATION MANAGEMENT CHALLENGES

Organizations are confronted with many information management problems and issues. For instance, in Nigeria, the two bodies known to be responsible for data collection are the National Bureau of Statistics (NBS) and the Central Bank of Nigeria (CBN). There is virtually no coordination between them and other data collection agencies to the extent that, they collect data on the same variables and sometimes there are discrepancies in the data published by them. For example, the values of Total Imports in CBN Statistical Bulletin (2000) and for the same variable in NBS (2000) Annual Abstract of Statistics are not the same. Also, comparing the variable, Total Government Services in Annual Abstract of Statistics (NBS, 2001) with CBN Statistical Bulletin (2005) the discrepancy is much.

Common information management problems include:

- Large number of disparate information management systems.
- Little integration or coordination between information systems.
- Range of legacy systems requiring upgrading or replacement.
- Direct competition between information management systems.
- No clear strategic direction for the overall statistical environment.
- Limited and patchy adoption of existing information systems by staff.
- Poor quality of information, including lack of consistency, duplication and out-of-date information.
- Little recognition and support of information management by senior management.

- Limited resources for deploying, managing or improving information systems.
- Lack of clarity around broader organizational strategies and directions.
- Difficulties in changing working practices and processes of staff.
- Internal politics impacting on the ability to coordinate activities enterprise-wide.

While this can be an overwhelming list, there are practical ways of delivering solutions that work within these limitations and issues. These are:

Recognize (and manage) complexity: Organizations are very complex environments in which to deliver concrete solutions. As outlined above, there are many challenges that need to be overcome when planning and implementing information management projects. In practice, however, there is no way of avoiding the inherent complexities within organizations. New approaches to information management must therefore be found that recognize (and manage) this complexity. Successful information management is underpinned by strong leadership that defines a clear direction. Many small activities should then be planned to address in parallel the many needs and issues.

Focus on adoption: Information management systems are only successful if they are actually used by staff. In all these cases, the challenge is to gain sufficient adoption to ensure that required information is captured in the system. Without a critical mass of usage, corporate repositories will not contain enough information to be useful.

This presents a considerable change management challenge for information management projects. In practice, it means that projects must be carefully designed from the outset to ensure that sufficient adoption is gained.

This may include:

- Identifying the what's in it for me factors for end users of the system.
- Communicating clearly to all staff the purpose and benefits of the project.
- Carefully targeting initial projects to build momentum for the project.
- Conducting extensive change management and cultural change activities throughout the project.
- Ensuring that the systems that are deployed are useful and usable for staff.

These are just a few of the possible approaches and they demonstrate the wide implications of needing to gain adoption by staff.

Deliver tangible and visible benefits: It is not enough to simply improve the management of information behind the scenes. While this will deliver real benefits, it will not drive the required cultural changes, or assist with gaining adoption by staff. In many cases, information management projects initially focus on improving the productivity of publishers or information managers. While these are valuable projects, they are invisible to the rest of the organization. When challenged, it can be hard to demonstrate the return on investment of these projects and they do little to assist project teams to gain further funding.

Instead, information management projects must always be designed so that they deliver tangible and visible benefits. Delivering tangible benefits involves identifying concrete business needs that must be met. This allows meaningful measurement of the impact of the projects on the operation of the organization. The projects should also target issues or needs that are very visible within the organization. When solutions are delivered, the improvement should be obvious and widely promoted throughout the organization.

Provide strong leadership: Successful information management is about organizational and cultural change and this can only be achieved through strong leadership. The starting point is to create a clear vision of the desired outcomes of the information management strategy. This will describe how the organization will operate, more than just describing how the information systems themselves will work. Effort must then be put into generating a sufficient sense of urgency to drive the deployment and adoption of new systems and processes. Stakeholders must also be engaged and involved in the project, to ensure that there is support at all levels in the organization.

This focus on leadership then underpins a range of communications activities that ensure that the organization has a clear understanding of the projects and the benefits they will deliver.

When projects are solely driven by the acquisition and deployment of new technology solutions, this leadership is often lacking. Without the engagement and support of key stakeholder outside the IT area, these projects often have little impact.

CONCLUSION

Implementing information technology solutions in a complex and ever-changing organizational environment is never easy. The challenges inherent in information management projects mean that new approaches need to be taken, if they are to succeed. This study has outlined

key rules of effective information management. These focus on the organizational and cultural changes required to drive forward improvements.

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