



STATISTICS
DENMARK



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MZ:2006:10

Mission Report

from a short-term mission on IT Management and Strategic IT Use

28 August – 1 September 2006

TA for the Scandinavian Support Program to Strengthen the Institutional
Capacity of the National Statistics, Mozambique

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List of abbreviations

CO	Scanstat Coordination Office in Statistics Denmark
Danida	Danish International Development Assistance
DKK	Danish Kroner
DSt	Statistics Denmark
EUR	European Euro
INE	Instituto Nacional de Estatística, Mozambique
INE-P	Instituto Nacional de Estatística, Portugal
MZM	Mozambique Meticais
NOK	Norwegian Kroner
Scanstat	Consortium between Statistics Denmark, Statistics Norway and Statistics Sweden
SCB	Statistics Sweden
SEK	Swedish Kronor
SSB	Statistics Norway
USD	US Dollars
ZAR	South African Rand

1 Executive summary

The consultant, Lars Thygesen, visited INE in Maputo 27 August – 1 September. During the mission, the strategic management of IT in INE was studied through interviews of management and key staff members, and the consultant participated in seminars and workshops arranged for the 10 years anniversary of INE.

In a management workshop on 1 September, the Presidency decided to establish an IT council at high level to decide on IT Strategy as a part of core business, the first issue to be decided being directions for a corporate data warehouse. Another key issue would be standardisation of the IT toolbox.

2 Introduction

The consultant, Lars Thygesen, visited INE headquarters in Maputo 27 August – 1 September. During the mission, the strategic management of IT in INE was studied through interviews of management and key staff members, and the consultant participated in seminars and workshops arranged for the 10 years anniversary of INE.

I have been involved in the ScanStat project since its preparation phase in 2001. My last mission to INE was in July 2003, see *MZ-2003-10: Strategic IT Development Issues*

I wish to thank the hosts, and especially the President of INE, Dr. Loureiro, for help and support during the mission. The hospitality and good spirit with which I was received made the stay not only fruitful, but very enjoyable as well.

This report contains the views of the consultant, which do not necessarily correspond to the views of Danida or INE.

3 Activities during the mission

The mission coincided with the celebration of INE's 10 years anniversary, so I could take advantage of a number of arrangements. Thus I participated in the opening of the new building of INE's provincial centre of the Province of Maputo; a statistical seminar with some 40 invited from INE and cooperation partners where recent results from two important surveys were presented; and most importantly for this mission, a reflection day for all INE staff, which included a discussion of Professor Sten Johansson's analysis of progress during the past 10 years and goals for the future.

I had the opportunity to interview vice presidents, directors and key IT managers about their views on problems and opportunities. I also visited an important cooperation partner, the Ministry of Agriculture who is responsible for agricultural statistics as a part of the national statistical system.

On the last day, a management workshop was arranged on IT management. It was chaired by the President of INE and attended by deputy presidents, directors, deputy directors and a few heads of departments, as well as by the ScanStat team. In this seminar, I had the opportunity to present my preliminary findings and recommendations, and there was an intensive debate of challenges and opportunities. Finally the president drew up conclusions and decisions.

4 Observations and reflections: Which are the main challenges?

Having participated in the ScanStat programme since its preparation in 2001, it was a encouraging witnessing the great achievements and progress made by INE in many areas and in rather few years, INE has managed to progress very well towards shaping the statistical system of the country, and very important surveys have been successfully completed. There have also been significant improvements in IT infrastructure and expertise.

4.1 The role of IT in a statistical office

The starting point is that IT is at the heart of core business management of a National Statistical Office like INE.

The sole measure of success for INE is whether it manages to produce data that are relevant and are being put to use by key users. These users are mainly outside INE, and they are the key players in a democratic society - ministries of the government, parliament, sponsors, researchers and the public, using the press as intermediary.

IT is core business of INE, and management must drive the strategic directions for IT.

In the present situation, IT has been left too much to IT specialists and different groups of data producers, without sufficient focus on a corporate information management strategy. Data producers know what they want, and to a certain extent they also know what users want, they should be served, IT strategy must allow for accommodation of their tasks. But if they are not governed by a common vision and common facilities, they will develop their own systems in different ways – which will inevitably be incompatible. This is what is generally termed as stove-pipe production: each branch optimizing its own independent production stove-pipe.

4.2 Common access to data and metadata

It has become clear that, although INE produces an increasing amount of very nice publications, there is a feeling that the statistics are under-utilised. How can a ministry get access? Can they actually find what they are looking for, looking at the Internet site? Is everything accessible in one easily understandable form? It seems to be very difficult for users to find data. Books are difficult to retrieve, it is difficult to know in which book to look, users have to revert to datasets stored by INE and only a few staff members know what is in them and how to get the data.

Staff from one department should also be able to find related statistics from another department in order to enrich their own work. This is very difficult with the present information architecture.

It has for some years been recognized that INE needs a statistical data warehouse. This concept is nothing mysterious: Only a common place where all production units *must* put all useful statistical data and metadata according to a common, agreed standard. The data warehouse could comprise micro data and / or macro data. It is important to start simple and not to exaggerate the technical complexity. INE already has developed prototypes, one of them, the PC-AXIS macro data warehouse, is on the Internet site.

Management has to address a number of obstacles from inside and outside the organisation:

Some producers may claim that it is easier to do as we have always done, and that there isn't any problem, only few ask for data, and then we find them; we know what our users need.

Some national users or international organizations want special formats or to introduce their own databases; this should be solved by creating different outputs from the data warehouse.

4.3 A standardized toolbox, common software (and hardware)

It is recognized that INE needs a stronger standardization of especially the software platform. Success in implementation within this field has been too weak.

Again, management must combat some internal and external obstacles:

Producers will – rightly – state that it is easier to use the diverse tools they have been using up to now, or that they have seen a very good system elsewhere; management must weigh this investment against the long-term advantages of standardization.

Sponsors come with different tools, and the government may recommend on specific solution.

4.4 Management infrastructure

As mentioned, it is not enough to discuss technical matters among technicians. It is not sufficient to ask for the right technical solution for a single problem. Everything must be seen in relation to an active IT strategy, indicating where management wants to go. Deviations from the “road-map” must be identified, consequences must be known and evaluated. A *Plano estratégico de sistemas e tecnologias de informação* has been prepared but has never been formally approved. A more operational plan has been approved but needs revision.

5 Conclusions

In the closing seminar, it was decided to create an IT Council which will be chaired by Presidência and consist of Directors. DICRE will supply the secretariat for preparation of agendas and decision documents for the meetings and distribute minutes and decisions after approval. The Council

will meet regularly and make high-level management decisions on the IT architecture and the directions of IT development.

The first task of this Council will be to decide the guidelines for how to create and populate the corporate data warehouse of INE. The data warehouse will be a place where all useful micro data, macro data and metadata are to be stored and made available to external and internal users. It must be updated with all new statistics. It has already been decided that the data warehouse is mission critical to INE. Prototypes of two important components to build on – macro data warehouse with PC-AXIS and micro data and metadata in Micro Data toolkit – are already in place. The secretariat should prepare the basis for the decision, based on these experiences.

The council should work on a continuous basis with regular meetings on strategic matters.

Annex 1 Persons met

INE

João Loureiro, President of INE

Valeriano Levene, Vice president, Economic Area

Manuel Gaspar, Vice president, Social & Demographic Area

Luis Mungamba, Director of Administration and Human Resources

Tomas Bernardo, Vice Director DICRE

Saide Dade, Director National Accounts

Anastácia Honwana, Head of IT department

Alda Rocha, Head of External Relations

Isabel Novela, Project Assistans SCANSTAT

MINISTRY OF AGRICULTURE

Domingos Diogo, Counsellor in Statistics at Ministry of Agriculture

SCANSTAT PROJECT TEAM & EXPERTS

Sten Johansson, Short term consultant

Lars Carlsson, Resident Team Leader

Karsten Bormann, Resident IT Expert

Annex 2 Terms of Reference

TERMS OF REFERENCE for a short-term mission on

IT Management and Strategic IT Use August 28 - September 1, 2006

within the Scandinavian Assistance to Strengthen the Institutional Capacity of INE/Mozambique

Consultant: Lars Thygesen

Counterparts: Destina Uinge, Presidência, Directores

Background

The use of IT is omnipresent in the modern work place. As IT is integrated with every work practice in the modern organisation, IT management has become highly complicated. It does not consist only of managing the IT department but also of making sure that IT is deployed in a way that best support the core business.

To make good and efficient use of IT one needs to go beyond seeing the IT usage and its associated possibilities as technological issues and instead step into the realm of human and organisational issues. I

Objectives

The mission will provide INE with some possible scenarios for the future organization of the IT function and its strategic use. Thereby creating a preliminary input to the Strategic Plan 2008-2012 regarding the strategic use of IT and how “best” to manage it. Secondly, by firmly relating the discussion to the present situation at INE it is hoped that the report will be immediately relevant to the management of IT, and to decision making in that area.

Expected results

Having identified and discussed the most likely scenarios for the future developments in the area of IT technologies and its associated management challenges the senior management of INE should be able to start the process of formulating and implementing a new IT strategy to underpin and support the organizational development of INE in the next planning cycle.

After having discussed the most likely future scenarios the relevant stakeholders at INE should have the feeling that they now have sufficient information to make future decisions in the area of IT management.

Method

The first step in this process is to sum up existing information into an overall strategic view of the current state of affairs

- Review the technological infrastructure
- Review the current usage of IT and identify key processes and possibilities and problems from a management perspective

Second, it is important to use knowledge that is present, but which may be dormant, within the organisation, therefore the mission should help to:

- Elicit strategic goals for Statistical Production and IT usage
- Solicit plans, wishes, and ideas for future IT usage

From the current state of affairs and the elicited goals, as well as from experiences drawn from other institutions it will be attempted to

- Identify key decisions that will lead to qualitatively different scenarios
- Discuss the consequences of scenarios with respect to the production pipeline

Finally, the more operational side of IT management needs to be addressed

- Identify IT management issues. Both regarding technology and its deployment by the IT department and regarding the coordinated use of IT across INE (and DPINE and ODINE) within the Mozambican reality.
- Discuss IT management issues in relation to the scenarios.
- Suggest tools and processes for supporting (IT) management

Activities

As a rough guideline, the first part of the mission will be used to establish the current state of affairs through reports by DISI and discussions with managers and key technicians within the presidency, the different directorates, DPINE da Maputo Cidade, one or more ODINEs, and DISI. (And, maybe, the government commission of strategic IT use, “The IT-policy commission” <http://www.infopol.gov.mz>).

A summarized speech will be given at the INE 10-year celebrations 28 of August¹.

Finally the mission will end by systematizing and presenting the key issues and challenges of IT management now and in the future to the senior management of INE.

Tasks to be done by INE to facilitate the mission

- Elaborate ToR for the mission
- Gather the necessary information on the actual situation at INE centrally and in the provinces
- Provide a fixed meeting schedule for discussions with key stakeholders
- Supply the consultant with necessary documents and information. Due to the complexity of the mission this preparatory work must be thoroughly done well in advance
- Supply good working conditions for the consultant
- Make sure that involved personnel is available

Consultant and Counterpart

Consultant: Lars Thygesen

Counterparts: Presidência, Destina Uinge, Directores

Timing of the mission

One week (see frontpage).

¹ There will also be a speech this day by the SCANSTAT STA Mr Sten Johansson around the theme **The National Statistical System (SEN)** - a 10 year résumé. Mr Johansson will be here 22-29 August.

Report

The consultant will prepare a short draft report to be discussed with the counterparts before leaving Maputo. The final version will be sent to INE within one week of the expert having returned to Denmark. The Counterpart then has to provide, also within one week, at least a summary in Portuguese (if the main report is in English – or else; vice versa) to be included in the final printed report. Statistics Denmark, as Lead Party, will print the final version within three weeks of the end of the mission. The structure of the report should be according to Danida format.

These Terms of Reference were prepared by

Day / /
.....

Approved by/in the name of the President of INE

Day / /

Annex 3 Programme for management seminar held on 1 September 2006.

30 August 2006

Time	Activities
9:00-9:15	Opening statement by the President of INE
9:15-10:00	Management and IT in statistics: <ul style="list-style-type: none"> • Observations and reflections by Lars Thygesen, invited by INE: Which are the main challenges? • General discussion • Conclusions by the President of INE
10:00-10,30	Common access to statistical data and metadata – the data warehouse <ul style="list-style-type: none"> • The present state, the vision, problems, the role of management. Tomas Bernardo • Discussion • Conclusions by the President of INE
10,30-11,00	Standardisation of software platforms <ul style="list-style-type: none"> • The present state, the vision, problems, the role of management. Tomas Bernardo • Discussion • Conclusions by the President of INE
11,00-11,15	Break
11,15-11,45	Managerial and organisational questions: How can Management move towards the vision? <ul style="list-style-type: none"> • Some proposals for discussion. Lars Thygesen • Discussion • Conclusions by the President of INE
11,45-12,00	Decisions: The way ahead, next steps. The President of INE



Observations and reflections: Which are the main challenges?

September, 2006

Achievements

- Infrastructure much improved
- Technical competence
- Many results produced in short time

Which are the main challenges?

- The role of IT in a statistical office
- Who should drive IT?
- Common access to data and metadata
- A standardized toolbox: common software
- How can Management drive the strategy
- Plano Estratégico de sistemas e tecnologias de informação

Data warehouse opportunities

- Users can find data themselves – when they want
- Data and metadata can be combined and used over and over again, for innumerable outputs
- Horizontal products covering various subject matters can be developed at a reasonable cost
- Provided data and metadata are properly organised

The screenshot displays a Microsoft Internet Explorer browser window. The title bar reads "INE - - Microsoft Internet Explorer". The address bar shows the URL: <http://www.ine.gov.mz:82/pxweb2005ine/Database/INE/databasetree.asp>. The page content features a banner for "Instituto Nacional de Estatística" with a logo and a line graph. Below the banner, the main heading is "Indicadores". A tree view structure is shown, starting with "» Base de Dados". Under this, there are several sub-categories: "» Clima" (with a sub-item "» Clima"), "» População e Indicadores Sociais" (with sub-items "» População", "» Educação", "» Saúde", "» Turismo", "» Justiça", and "» Força de trabalho"), "» Produção de Bens e Serviços", "» Relações económicas externas" (with sub-items "» Cambios" and "» Exportações e Importações"), and "» Finanças preços e agregados macro-económicos" (with sub-items "» Finanças Públicas", "» Preços", and "» Agregados macro-económicos"). The browser's taskbar at the bottom shows the Start button and several open applications: "Start Menu", "Microsoft PowerPoint ...", and "INE - - Microsoft Inte...".

Standard platform opportunities

- Smooth flow of data – don't have to transform
- All staff can access and understand
- Minimize costs and maintenance
- Minimize training

Questions for discussion #1

- Does INE need a statistical [data warehouse](#) : a place where all production units **must** put all useful data according to a common, agreed standard?
- If yes: How overcome obstacles, pressures, resistance?
- Could we start with macro data?
- How could this be managed?

Questions for discussion #2

- Does INE need a standardised toolbox – one tool for each statistical work process?
- If yes: What are the obstacles, pressures, resistance?
- How can they be overcome?