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# IMPROVING GOOD GOVERNANCE WITH ELECTRONIC POLICY MANAGEMENT ASSESSMENT TOOLS

by

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## ABSTRACT

The objective of this paper is to summarise the need for and potential applications of selected user-friendly, state of the art electronic policy support tools to promote more successful strategic policy assessment, that in turn will improve sustainable service delivery outcomes in the public sector.

Recent international research findings on good governance indicate *inter alia* the following trends : A general acceptance that a strategic management approach focused on committed actions to achieve realistic implementation objectives, is needed to improve service delivery outcomes; this necessitates *inter alia* effective information use and management; a dramatic world-wide increase in the availability of digitised policy related data and high power capacity computer systems to manipulate that data; a resultant dramatic increase in the reliance on integrated electronic management information systems in well developed and relatively successful policy systems to monitor co-ordinate and implement and assess the effectiveness of policy implementation programmes, and an increasing reliance on more user-friendly & less technically complicated & more visual and command driven electronic decision support systems to optimise multi-criteria policy decision-making in order to promote effective policy implementation and service delivery.

In many developing countries, the current state of affairs with regard to the above strategic trends in more developed countries, is not good. The main problems are : frequent incidences of policy failure, attributed primarily to ineffective or bad policy implementation; weak policy implementation capacity and service delivery results; low levels of policy decision-making-related knowledge, experience and skills, especially electronics and management information systems, and low appreciation of utility and potential of such aids; information gaps and uncertainties cause a general policy paralysis which should be transformed into policy activism in order to improve policy implementation and service delivery results.

In order to improve the positive impact of public policy outputs in developing states, the success of public policy outcomes of government needs to be significantly increased. The experiences of different nations where electronic output and outcome support tools have been used or are in use, to achieve a better success rate with public policy design and implementation, are important in this regard. The adoption and use of more user-friendly but effective electronic management support systems will not necessarily guarantee policy and service delivery success. It is assumed that these decision aids will, however, maximise the potential for improved or more successful results if they are applied appropriately and effectively.

Elementary electronic management assessment tools can be used effectively to improve the success rate of public services delivery. Policy implementation and review could be enhanced through the use of specialised electronic performance management and assessment tools. No single, integrated package of this nature currently exists. If developed, it could be beneficial to public policy outcomes especially in the developing world, to expose such officials to the utility of DSS tools.

# IMPROVING GOOD GOVERNANCE WITH ELECTRONIC POLICY MANAGEMENT ASSESSMENT TOOLS

## INTRODUCTION

In 1998 the Presidential Review Commission on the Transformation of the South African Public Service (the PRC) identified a series of normative, structural and functional defects in the existing South African Public Service, and recommended a series of significant reforms to attempt to improve the process of governance in general and public services delivery in particular in South Africa. A crucial element of the recommendations was the reshaping of the strategic electronic decision-making and management capacity of central government (see Malabie 1998).

The author participated in the research that led to the PRC report, and expanded that research during a six months' research programme in South East Asia in 1998, where the contributions of the so-called South East Asian "Tigers" (Singapore, Malaysia, Thailand, Indonesia and the Philippines) were assessed, to determine which factors contributed to their varied levels of public services delivery performances over the past decade. A model for improved public services delivery in developing countries was formulated out of the comparative contemporary literature on Good Governance, combined with the experiences of the Tiger countries.

The above research report was subsequently published in book format (Cloete 2000a). One of the crucial research findings in this report, was the need to improve the strategic decision-making and management processes in government, in order to promote good governance by reducing the levels of uncertainty and risk in decision-making which frequently lead to either policy indecision and stagnation or bad decisions or implementation strategies. It means a clearer focus on good governance outcomes in the public sector in general, but especially in developing countries.

## ELEMENTS OF GOOD GOVERNANCE

For purposes of this paper, the capacity of the public service is conceptualised in general systems thinking terms as the structural, functional and cultural ability to implement the policy objectives of the government, ie the ability to deliver those public services aimed at raising the quality of life of citizens, which the government has set out to deliver, effectively as planned over time (in a durable way). It obviously refers to the availability of and access to concrete or **tangible resources** (human, financial, material, technological, logistical, etc). Capacity also includes the **intangible requirements** of leadership, motivation, commitment, willingness, guts, endurance, and other intangible attributes needed to transform rhetoric into action. The **political, administrative, economic, technological, cultural and social environments** within which action is taken must also be sympathetic or conducive to successful implementation.

The failure of development policies in lesser developed states can be attributed to many causes. It can in some cases be the consequence of "**bad design**", ie a defect in policy design. Examples of such policy defects include too grandiose schemes with a wrong prioritisation or little practical application (independence sports stadiums, international

airports, etc). The policy design error may also be found in a too rigid ideological blueprint, leading to the enforcement of inappropriate policies ( apartheid in South Africa, ujamaa in Tanzania, etc).

Another possible cause for policy failure is “**bad luck**”, referring to reasons for failure outside the control of the policy maker, including natural disasters, a weak international economy, etc (Hogwood & Gunn 1984).

In most cases, however, “**bad implementation**” is one of the major obstacles to effective progress with development in developing countries. This normally refers to a lack of sufficient financial resources to implement policies as envisaged, a lack of sufficient human resources (people, expertise and experience), a lack of sufficient material or technological resources, defective management processes or organisational cultures which obstruct rather than promote successful policy implementation. A combination of these implementation defects normally result in a general lack of policy implementation capacity in the society concerned.

If the resource constraints summarised above also affect policy design, the whole policy system suffers from a serious systemic incapacity to draft policy plans and transform policy rhetoric into visible and durable policy outputs and outcomes. This policy pathology can become a vicious spiral of decline in policy capacity which is in extreme cases (for example in Sub-Saharan Africa), difficult or even impossible to turn around .

**Good governance** is prescriptively conceptualised here as the achievement by a democratic government of the most appropriate developmental policy objectives to sustainably develop its society, by mobilising, applying and coordinating all available resources in the public, private and voluntary sectors, domestically and internationally, in the most effective, efficient and democratic way. This working definition contains both a normative and utilitarian approach. It is also a reflection of the current academic state of Public Administration / Management. Scholars are attempting to integrate holistically from a systems perspective, the various levels and foci of analysis which have developed in disparate ways over the past few decades (Toonen 1998, Börzel 1998, Lynn 1996). Although the research contain early indications that new paradigms of governing are emerging (eg network and quantum approaches), scholars still disagree about the nature of the changes in public management practice which are being observed (see Börzel 1998 and Overman 1996). One of the significant trends that all scholars in this field agree with, however, is the shift from a resource input focus on public service delivery, to a more encompassing systems focus with the emphasis rather on input conversion into outputs and even outcomes. This has linked different scholarly traditions that have not necessarily been linked before. It brought for example the concept of development into direct focus, and through this approach also again linked normative and utilitarian approaches to government.

**Developmental policies** are public policies which succeed in raising the quality of life of a society's citizens. The objective with sustainable development in this sense is to achieve a self-sustaining improvement in medium to long term life quality. This implies inevitably a coherent systemic integration of development initiatives, resulting in a structural, functional and cultural consolidation of a new way of life; in fact the creation of a development culture in society.

**Sustainability** is based on the original idea of sustainable use of environmental socio-economic resources immortalised by the Brundtland Commission in 1982, but has an applied, additional meaning here. Sustainability will be used in this document to refer to institutional and functional durability of public policy programmes. Sustainable governance refers to durability of service of a required quantity and at a required level of quality over an extended period. It therefore implies a thorough assessment of all resource implications of service delivery, the incorporation of the results of such assessments into the design of service delivery strategies, and continuous access to the resources needed for sustainable service delivery.

Sustainability in this sense does therefore not only mean the availability of sufficient finances to provide the services needed, but more comprehensively it refers to the overall capacity of the organisation to deliver such services and adapt to changing circumstances over an extended period of time, maintaining or preferably improving the service concerned. Sustainability therefore also includes the notions of flexibility and resilience in the face of set backs. The term is also applicable in a political context. Political sustainability refers to dedicated political commitment : continuous support by political decision makers for the programmes concerned, not only through consistent rhetoric, but also backing their words up by consistent actions (Brinkerhoff 1992, Brown 1998).

A balanced and integrated programme of development in all policy sectors is a prerequisite for the sustainability of policy implementation (Blunt 1990). Skewed development does not contribute to sustainability. It obstructs it. The negative consequences of high gini co-efficients in states like South Africa, India, etc, illustrates the point.

Sustainability should therefore not be interpreted as only of environmental and socio-economic relevance, but should be conceptualised holistically, to include also political, institutional and managerial dimensions.

## **A POLICY MANAGEMENT ASSESSMENT FRAMEWORK**

In terms of the new public management focus on sustainable developmental outcomes, scholars are generally in agreement that more attention should be given to the results of government activities. To ensure optimum results, it is therefore even more important to **enhance policy implementation and evaluation processes**, than to provide better policy input and decision support. This is especially the case in more developed societies, where long periods of experimentation with different policy options have resulted in optimal policy programme designs. Policy implementation, however, can still be improved in most cases. In addition, it has become clear that even governments in highly developed systems do not always know to what extent they have been successful with their policy programmes, as a result of insufficient or inappropriate attempts at measuring and evaluating the consequences of their policy processes and the policy products that result from those processes.

As a result of the change in analytical focus **from public administration functions to governance outcomes**, there was a substantial increase in the existing body of knowledge on performance management and measurement over the last few years. One of the most recent and authoritative summaries of these topics has concluded that there is a surprising similarity in the objectives of the new surge towards performance assessment.

After a detailed comparative survey of performance measurement in the public sectors of eight highly developed countries across the world, Bouckaert, Hoet & Ulens ( 2000 : 3) concluded that these governments normally assess their performances in order to :

- increase **savings** on their expenditure budgets,
- improved their functioning (**efficiency, effectiveness and quality** of services), and
- improve their **accountability** towards their legislatures or other constitutencies.

It is interesting to note that normative aspects of public management does not feature explicitly in their conclusions. The above motivations are all of a highly utilitarian nature. They also found that different aspects of management performance are measured, including inputs, activities, outputs, users, results and impacts (Bouckaert, Hoet & Ulens 2000:107), and that different types of services are measured, including :

- tangible services (roads, houses)
- non tangible personalised services (education, health), and
- non tangible ideal services (advice, coordination) (2000:144).

Public management inherently consists of a government's response to the way it perceives its role in society. At the start of the paper, a systemic, developmental, problem-solving approach was used to conceptualise the different issues involved. From a **service delivery systems perspective**, one can identify public management activities as a conversion of resources into public policy outcomes to address perceived public policy problems (eg the delivery of selected services) in a preferred way. Linked to this is an important **developmental problem-solving approach** that has clear normative implications. These approaches imply that a government pursues selected combinations of **normative and utilitarian goals** in order to transform society into what it believes to be a better place (Cloete 2000b, chapter 1). One can distinguish various public **policy products** as the end results of various public **policy processes** in society.

The overall goal with the assessment of public management performance must then be to determine whether both the end products and the processes through which they came about, comply with the required or preferred standards set for them. The following performance assessment framework may be useful to systematise the different dimensions that need to be assessed :

## **Policy products**

The **outputs and outcomes of public management processes** are the most important objects for evaluation. The assessment task here is obviously to determine the **progress towards goal achievement** : ie what are the policy programme and project objectives, what are the real outputs and how big is the gap between them ? This focus also satisfies the effectiveness criterion stressed and summarised well by Bouckaert, Hoet & Ulens (2000:107). This type of assessment could also measure the various impacts of the policy programme on the different policy environments within which it plays out in the short, medium and long term In this way the relationship between policy intention and achievement, or policy objectives and outcomes, can be determined. Examples of such impact indicators are as follows ( Cloete 2000b, chapter 11) :

- **Demographic Impact Indicators** : Demographic impact indicators are subjectively perceived or objective changes in population -
  - size : bigger or smaller by a certain percentage,
  - distribution : by region : metropolitan, urban, rural, central or peripheral,
  - composition : age, sex, race, culture, language, profession, etc.
  
- **Geographic & Environmental Impact Indicators** : Geographic and environmental impact indicators are subjectively perceived or objective changes in nature, climate and the quality of natural & the living environment, including air, soil, noise, water, sea, flora, fauna & topography (eg Hart 1999).
  
- **Social Impact Indicators** : Social impact indicators are subjectively perceived or objective changes in individual & community profiles, status, values, institutions & behaviour patterns, including personal development levels, conflict, cohesion, networks, mobilisation, participation, mobility, stability, family life, youth development, crime, etc (eg Hart 1999, Greany & Kellaghan 1996, Jee & Or 1999, Italian National Institute of Statistics 1999).
  
- **Organisational & Technological Impact Indicators** : Organisational and technological impact indicators are subjectively perceived or objective changes in administrative agency size, budget, composition, scope of functions, services & facilities, distribution, accessibility, quality, quantity, effectiveness, efficiency, technology, etc (eg the Council of Europe's indicators for local government performance 1997, OECD 1997).
  
- **Financial / Economic Impact Indicators** : Financial and economic impact indicators are subjectively perceived or objective changes in income & expenditure patterns, taxation, economic growth & decline, inflation, exchange rates, types of economic activities & inactivities, employment, production & consumption patterns, living cost, productivity, etc.

The different types of indicators summarised above, comprise broad categories of analysis that can be employed to explain a relatively intangible change more accurately. In many cases, however, they are in themselves too vague and general for specific application, and need to be broken down and operationalised further before they are of any concrete use. Increasingly indicators for sustainable development across policy sectors are being devised (eg Bell & Moore 2000, OECD 2000).

Both **normative and utilitarian aspects of policy** products can further be assessed, depending on the needs within a given context. They include the following examples that do not constitute closed lists, but only summaries of the more obvious management performance dimensions that need to be assessed. They should be expanded and customised for different management assessment contexts :

- **Normative dimensions** :
  - To what extent is the result in the **public interest** ? This necessitates an operational conceptualisation of the public interest.
  - How equitable is the **resource allocation** ? This in turn necessitates an operational definition of equity.

- To what degree did the programme succeed in **citizen empowerment** (social, economic, political, technological) ?
  - To what extent did the programme promote **democratic or other values**?
- **Utilitarian dimensions :**
- To what extent did the government fulfil its **protection, regulation** (stability / customer satisfaction), social **development** & welfare (quality of life / level of development) and economic **growth** imperatives through the programme concerned?
  - To what extent did the programme **satisfy** the **programme objectives, needs and preferences** in its society. How **feasible** therefore were the policy objectives and outcomes, and of what **quality** were they ? (see Bouckaert & Vandeweyer 1999);
  - How **affordable** are the services in the short, medium and longer terms,
  - What, and how **sustainable**, are the **impacts** of the policy products concerned generally in the longer term in the various sectors (social, economic, political, managerial, technological, environmental), and overall (both objectively and subjectively determined)?

### **Policy Processes :**

Although policy products as the main objectives of governmental activities are the primary foci of policy management assessment, management process assessment is just as crucial. This entails an evaluation of the way in which resources or **systemic inputs have been converted into policy outputs and outcomes**. Contrary to many popular beliefs, there are also crucial normative elements inherent in management process assessment. The different assessment dimensions that are relevant here, include the following :

### **Normative dimensions :**

- The main question in this regard is probably how **legitimate / democratic** were the processes through which the policy products came into being, and how **representative** of the main stakeholders in the issues concerned were they ?
- To what extent did the policy management processes acknowledge / promote the **rights and duties** of citizens ?
- How **transparent, tolerant and participatory** were these processes ?
- How **responsive and accountable** were these processes towards the main political and financial constituencies who gave the mandates concerned ?
- How **equitable and fair** were the processes concerned ?
- How **professional & ethical** were they ?

### **Utilitarian dimensions :**

- Probably the most important assessment dimension here is the degree of **efficiency and productivity** of the policy process in the conversion of resources into outputs. The main objective here would therefore be to determine whether there was an optimal use of all resources (including people, finances, supplies, time, etc), with the objective to **decrease the costs** for the organisation concerned

of producing the required service / product, (Bouckaert & Auwers 1999:13 prefers to talk of an increase in savings ) and simultaneously **increase the quality** of such service / product (Bouckaert & Vandeweyer 1999) .

- Various aspects of **effectiveness** are also relevant here, as Bouckaert, Hoet & Ulens have indicated (2000:107).
- The **flexibility** of the policy processes to allow for mid-stream changes in direction as a result of unforeseen circumstances is also a relevant factor to be considered.
- The extent of **entrepreneurialism / innovation / creativity** in the design and delivery of policy processes and products can be assessed.
- The quality and sustainability of the overall **policy system** that has been created, and the extent of strategic & operational integration & co-ordination for purposes of **continuous improvement**, is another crucial element for process assessment.

The above policy management assessment framework contains elements that overlap in some cases, making it more difficult to measure and assess isolated effects accurately. This is, however, the nature of social research, and can only be minimised through careful and systematic controlling of variables, where feasible.

Various conceptual, analytical management performance assessment models have over time been developed, that combine elements of the above framework for purposes of the assessment of different management dimensions. One of the most popular contemporary models is the **Balanced Scorecard (BSC) model**, popularised by two American academics via Harvard Business School publications (see Bouckaert & Auwers 1999:39). The model consists of a combination of the following four dimensions of management : profit, client satisfaction, internal organisational processes and continuous learning and improvement of results. It proposes a measuring instrument to assess to what extent organisations have succeeded in achieving better results in those areas. Because the BSC model has been developed specifically for the business sector, its application in the public sector is not always satisfactory.

Another recent approach that has been developed, is the **Public Service Excellence Model (PSEM)**, which is the most comprehensive attempt so far to design an evaluation approach for the contemporary public sector in more developed societies (Publicfutures 1998). It is an adaptation of the original business-focused **EFQM model** developed by 14 European countries who are members of the European Foundation for Quality Management, and has the explicit objective of improving public policy programme outcomes through the improvement of the strategic management processes in public sector agencies (Publicfutures 1998, Bouckaert & Auwers 1999:33). It takes an ambitious, comprehensive focus on the whole service delivery system, and attempts to improve literally all the elements of that system, analogous to the management assessment framework summarised above. Its emphasis is, however, also primarily on the utilitarian dimensions of policy management, under-emphasising the normative dimensions involved. The elements of the BSC model have also largely been taken up in the new PSEM.

A third distinct public management assessment model that is gaining support, is the Belgian **MAPE model**, devised by Bouckaert and his colleagues (see Bouckaert & Auwers 1999:22). Like the PSEM, the MAPE model also focuses on the total public policy management system, and emphasises its four distinct functional dimensions : inputs, throughputs, outputs and outcomes. It is, however, analytically more stream-lined than the

PSEM model. Like the PSEM, this model also focuses on the total management assessment framework summarised above, and it similarly under-emphasises the normative elements of the framework.

As the recent developments regarding the PSEM and MAPE approaches have indicated, a trend towards more comprehensive, macro-level, strategic assessment of both public sector management processes and products can be discerned. This trend also includes a focus on the integration of policy management processes with evaluation processes, in order to create an integrated and continuous assessment system instead of the traditional add-on and periodic evaluation that is frequently not taken seriously. There is a clear trend towards an integration in the business sector of Activity Based Costing & Management (ABCM) and Enterprise Resource Planning and Management (ERPM) approaches with general financial management systems (eg Gurowka 2001, Pollitt 1999). A significant proportion of the Fortune 500 companies have already moved or are moving in this direction. This is clearly an emerging best practice, and if the public sector wants to be a competitive service provider, it has to follow suit. The objectives and scope of management assessment will, however, differ from agency to agency, and each exercise has to be custom-designed in order to achieve the desired results, depending on what one wants to assess.

The next question is what the contribution of electronic policy management assessment tools can be to facilitate and perhaps even improve the quality of answers sought for the above types of questions.

## **NEED FOR ELECTRONIC POLICY MANAGEMENT ASSESSMENT TO ACHIEVE SUSTAINABLE GOVERNANCE OUTCOMES**

In general, those developing countries who appear to have recently succeeded with most of their development programmes, have apparently succeeded with effective and appropriate policy designs. Before the contagious Asian economic flu, countries like Argentina, Chile and the “Pacific Tigers” (including Singapore, Malaysia, Thailand, Indonesia and the Philippines), have also seemingly successfully converted their policy plans into effective and sustainable policy action programmes (Montgomery 1995, Page & Campos 1995, Ravenhill 1995, Stiglitz 1996, Cloete 2000a). The recent developments in Asia have, however, highlighted various elements of sustainable capacity-building again.

The need for electronic decision support is a crucial variable that is becoming increasingly important. Recent international research findings on good governance indicate *inter alia* the following trends (eg OECD 1998) :

- ◆ A general acceptance that a strategic management approach focused on committed actions to achieve realistic implementation objectives, is needed to improve service delivery outcomes;
- ◆ this necessitates *inter alia* effective information use and management;
- ◆ a dramatic world-wide increase in the availability of digitised policy related data and high power capacity computer systems to manipulate that data;
- ◆ a resultant dramatic increase in the reliance on electronic management information systems in well developed and relatively successful policy systems to monitor co-ordinate and implement and assess the effectiveness of policy implementation programmes, and

- ◆ an increasing reliance on more user-friendly & less technically complicated & more visual and command driven electronic decision support systems to optimise multi-criteria policy decision-making in order to promote effective policy implementation and service delivery.

In many developing countries, the current state of affairs with regard to the above strategic trends in more developed countries, is not good (Berman 2001, Peterson 1998). An authoritative management scholar remarked : “ *Decision-making at these high levels of government...is often portrayed as rational decision processes. But in fact, decision making involves managing issues that are forced on decision makers with varying and shifting priorities. Issues circulate continuously; they enter and exit through participants and are resolved in the sense that they dissolve or go away or are overtaken by other issues. The issues are themselves complex, poorly defined, interdependent...Information is voluminous but unreliable and qualitative*” (Lauden & Lauden 1998:596).

The trends are :

- ◆ frequent incidences of policy failure, attributed primarily to ineffective or bad policy implementation;
- ◆ Weak policy implementation capacity and service delivery results (Tiger cubs, developing countries in general and SA in particular).
- ◆ Low levels of policy decision-making-related knowledge, experience and skills, especially electronics and management information systems, and low appreciation of utility and potential of such aids.
- ◆ Information gaps and uncertainties cause a general policy paralysis which should be transformed into policy activism in order to improve policy implementation and service delivery results.

In order to improve the positive impact of public policy outputs in developing states, the success of public policy-related decisions and follow-up actions in government need to be significantly increased. **Success** is for purposes of this paper conceptualised as visible, concrete progress in policy decision-making and implementation towards achieving sustainable good governance along the lines summarised above (see, however, also Alavi & Joachimsthaler 1992, Sanders & Courtney 1985). Against the background of the global electronic revolution, the experiences of different nations where electronic decision and implementation support tools have been used or are in use, to achieve a better success rate with public policy design and implementation, are important in this regard.

Elsewhere I have dealt respectively with the contributions of electronic **decision support tools** to improve the quality of policy outcomes (Cloete 2001a), and the role of more specialised electronic **negotiation support tools** for this purpose (Cloete 2001b). The rest of this paper will focus on the contribution of electronic **policy evaluation support tools** for the improvement of good governance outcomes in the public sector. This covers large parts of the overlapping policy evaluation, performance management and performance measurement sub-fields in the public sector.

## ELECTRONIC POLICY MANAGEMENT ASSESSMENT TOOLS

A range of general and more specialised **electronic management assessment tools** have been created over the last few years that hold much promise for the improvement of government performance if they are applied correctly. Such management assessment tools are generally regarded as specialised decision support tools or systems. A **decision support system (DDS)** can be conceptualised as an electronic aid intended to improve good governance outcomes by facilitating more systematic and accurate identification, analyses, assessments and linkages of different policy problems, resources, objectives, solutions, costs, benefits, risks, probabilities, priorities, processes, outputs and outcomes.

A **management support system (MSS)**, can be conceptualised as a DSS that supports managerial decisions (Dutta, Wierenga & Dalebout 1997:72). DSS's and MSS's should also be distinguished from so-called **management information systems (MIS's)** and **executive information systems (EIS's)** that are normally computer-based information systems that are supposed to facilitate management processes in general or at top executive levels in organisations (eg library facilities and office automation tools like word processing, data bases, spreadsheets, presentation aids, e-mail, internet, etc). These tools are essential for effective governance outcomes, but are for purposes of this paper assumed to be in place and are prerequisites for DSS's and MSS's. Laudon & Laudon (1998:597) capture the distinction as follows : “ *...a DSS is not only an application , but a generalised capability for addressing decision makers' needs. Unlike an MIS, a DSS does not simply involve a routine, steady flow of data, but instead can be flexibly responsive to new situations by using data and analytic models (even spreadsheets) to work through the consequences of decisions and assumptions*”.

In order to improve the positive impact of public policy outputs in lesser developed states, the quality of public policy designs and implementation need to be assessed accurately. This can be facilitated by the use of user-friendly electronic policy management assessment tools. However, Laudon & Laudon argue that users of DSS tools frequently “ *... have little or no computer experience, and no patience to learning a complex tool, so the interface must be relatively intuitive... To mimic a typical way of working, a good user interface should allow the manager to move back and forth between activities at will*” (1998:594). This conclusion is important, because it implies that even existing electronic DSS or other software programmes designed for purposes of management support, and that are widely used in more developed countries (like Microsoft Office and MSProject packages), are already too sophisticated and complex for general application in public management conditions in many developing countries. There is therefore a need for the identification or development of intermediate level DSS's for this purpose in order to expose middle level officials to the benefits of such systems and induce them to migrate to more powerful and sophisticated systems like those mentioned above. Simultaneously, however, the overall strategic management outcomes of public sector organisations that already have a basic electronic infrastructure in place that operates satisfactorily, can potentially further be enhanced by more sophisticated support tools.

The term DSS indicates a comprehensive system consisting of different inter-related sub-systems, parts or tools. For purposes of this paper, the emphasis will not necessarily be on a total system, but on different, smaller tools to assess different aspects of policy management activities. As stated earlier, general and more specialised policy decision and negotiation support tools have been dealt with in Cloete 2001a, and 2001b, and will be excluded from the focus of this paper. The more integrated and comprehensive electronic

support is, however, the more useful it is, but unfortunately also the more costly and complex it becomes.

## CRITERIA FOR SELECTING ELECTRONIC ASSESSMENT TOOLS

In order to be of optimal use, electronic policy management assessment tools should in principle comply with a set of criteria that could include the following objectives. These objectives may, however, in some cases be contradictory :

- **Simplicity** : because of the frequently low levels of electronic literacy among public officials especially in developing countries, the simpler the user interface is, the better. This means that the use of simple concepts and clear command prompts guiding users step by step through the programme will enhance a programme's utility instead of the use of statistical tables and the reliance on more advanced electronic literacy levels of users (eg the built-in capability to print customised reports, visual presentations and background information like definitions, technical specifications, legislative requirements, etc);
- **Cost** : inexpensive DSS tools will for obvious reasons be more popular;
- **Hardware requirements**: computer memory and general capacity are perpetual constraints on decision support systems. The less capacity needed, the more application potential the DSS tool will have, especially in developing countries;
- **Access & maintenance** : access to DSS tools, training opportunities and the maintenance and upgrading of those tools are essential in order to apply the tools concerned optimally. Off-the-shelf software are therefore potentially more useful than specially designed software that needs specialist maintenance and upkeep;
- **Visual images** : DSS tools with strong visual and graphic capabilities, will have a better impact for presentation purposes in developing countries where the levels of literacy are traditionally low;
- **Specificity** : DSS tools that can be applied to achieve specific objectives are preferred to tools that can only indirectly resolve specific questions of concern (eg tools that are customised for application in the public sector will obviously be more useful than more generic ones focused on management in general);
- **Versatility / flexibility** : DSS tools that are able to address more than one problem, can be applied in different settings for different purposes, and that do not need specialised training, are preferable to tools that don't conform to these requirements. The more multi-functional these tools are, the more useful they will be (eg the capability to access specialised technically complex resources online in other databases or on the internet);
- **Compatibility** : the level of compatibility and integration of DSS tools with other programmes is essential to optimise application potential. Compatibility with existing mainstream business applications is therefore essential;

- **Transparency** : the desire of decision-makers to keep control of the decision-making process, necessitates tools that are relatively transparent and simple, in order to achieve legitimacy in the perception of the decision-maker; and
- **Scientific rigour** : the more rigorous the scientific base of the tool, the more reliable it would be. I e, tools that provide both qualitative and quantitative analytical and assessment capabilities in addition to more straightforward recording, describing, monitoring, tracking, systematising, reporting and presentation abilities, will be more useful than those tools that have fewer features of this nature.

The ideal would be to develop a single, integrated toolkit that can be used for different purposes in different stages of the policy process. No single **electronic management support system** of this nature currently exists, probably *inter alia* as a result of the technological requirements (eg speed, power, memory) and the conceptual complexities involved in the development of such a programme, the financial implications and most probably as a result of a still inadequate mainstream appreciation of the need for and the utility of such a tool.

There are, however, various existing **electronic management assessment tools** that contain one or more of the assessment dimensions mentioned above, and also comply to a greater or lesser extent with the major criteria for such tools summarised here. Some of these assessment tools are already integrated into more comprehensive **management implementation software** designed to deal with the recording, monitoring and controlling of individual transactions and other activities, like **SAP** ([www.sap.com](http://www.sap.com)), **SAS** ([www.SAS.com](http://www.SAS.com)), **Oracle** ([www.oracle.com](http://www.oracle.com)), **Peoplesoft** ([www.peoplesoft.com](http://www.peoplesoft.com)), **Hyperion** ([www.hyperion.com](http://www.hyperion.com)), etc. These tools have the best long term success potential, because of the relatively advanced levels of integration that their developers have already achieved with mainstream policy management processes. The two major draw-backs from which they all suffer, however, are the total system design implications of implementing them (frequently necessitating full Business Processing Re-engineering exercises), and, secondly, the cost implications of implementing such totally new system wide solutions. For these reasons, this type of electronic assessment system does not comply with the cost criterium laid down above, and will therefore not be dealt with further in this paper.

Where organisations, already have some of these more comprehensive management implementation support systems in place, it is a small step to upgrade the use of these systems to a higher level : from description and recording, to analysis and assessment, utilising the functional capabilities that these systems already have built into them or that can be added on with smaller, customised software packages. For the purposes of this paper, the focus will be placed on another category of toolkits : **specialised electronic management assessment tools that have become more readily available over the last few years as standalone tools**. A few of the most interesting tools of this nature will be identified, and their utility **solely** for purposes of policy management assessment briefly summarised against the background of the discussion so far, although these toolkits can also be used in conjunction with the more comprehensive total system solutions referred to above. They have been selected on the basis of their over-all levels of compliance with the assessment criteria defined earlier.

## UTILITY OF SELECTED ELECTRONIC MANAGEMENT ASSESSMENT SOFTWARE PRODUCTS

The following four software products are summarised in rising order of **utility purely for policy assessment purposes within the public sector at this moment in time**, according to the assessment of the author, in compliance with the assessment criteria identified earlier. One would have to apply other assessment criteria in order to assess their utility as possible sub-systems of more integrated and comprehensive management support software of the types mentioned above.

### 1 PERFORMANCE ORGANISER

This software package is a relatively new product, developed in the UK. It is aimed primarily at organisation value, structure and process design, modelling and the creation of an organisation management information plan that can also be used for management assessment ([www.jit-software.com](http://www.jit-software.com)) It has been developed in the UK around the Business Excellence Model, integrated with the Balanced Scorecard approach to management assessment in the UK public sector. It is the only commercial electronic management assessment tool that this reviewer has uncovered so far that it is explicitly focused on public sector application. It is a qualitative, descriptive tool, with the capacity to create spreadsheets and data bases that are compatible with the MS Office technology. It provides the capacity to link organisational strategic visions, missions and objectives to resources and performance indicators in order to undertake assessments. It does not, however, contain quantitative analysis and assessment tools itself. It must therefore be used with other tools that can provide the technical capacity needed.

Performance Organiser is very user-friendly and easy to operate. Its visual capabilities are limited, compared to the other DSS programmes summarised here, but it does provide a flexible organisational structure drawing function that is easy to operate. It requires a Pentium 2 chip, at least 10MB disk space and Windows NT or 2000 technology for optimal functioning. It is a stand alone application, but network aware. Its operating manuals are comprehensive and easy to follow. For what it offers, Performance Manager is good value for money (£ 250), compared with the cost of some other products in this field.

Performance Organiser's main strengths are its user-friendliness, price and public sector orientation. Its main weaknesses include its lack of quantitative analytical and assessment capabilities, and its restricted scope and visual powers, compared to its competitors.

### 2 QPR MANAGEMENT SOFTWARE

The QPR management software is a Finnish product ([www.qprsoftware.com](http://www.qprsoftware.com)). It also consists of three separate but linked software products. They are primarily aimed at the private sector. The first is QPR CostControl, which is a financial management support tool based on the Activity Based Costing and Management approach. It provides the capacity to link resources to activities and cost objects, and thereby track the flow of activities in an organisation. It can be linked to real time operational systems, or run independently from

them. It can model changes in variables and thereby provide “what if” strategic assessment information for different aspects of the operation. It can also compare datasets, eg current with previous results, averages or benchmarks.

The second package is called QPR Processguide, which is basically a modelling and simulation tool, based on the principles of Business Process Re-engineering (BPR). Modelling and simulation results are presented in user-friendly visual graphs and reports. It is a useful strategic planning and design tool.

The third tool is called QPR ScoreCard, and is designed to facilitate Balanced Scorecard performance assessments. It analyses cause-effect relationships between goals, objectives and critical success factors. It presents data and conclusions in a user-friendly visual way, and makes use of dashboards, graphs, hierarchies, etc. It can do comparisons and analyses of current and other datasets, and follows the usual drill down approach to deeper levels in order to provide more information.

Combined, these three packages provide a comprehensive and integrated management implementation, monitoring and assessment capability, primarily aimed at the private sector, although the process guide component has, according to the marketer, already been applied successfully in the public sector (eg the US Department of Defence). The terminology of the software is, however, very much business oriented, and would need customisation to be applied effectively in the public sector. The methodological focus of the three packages is also restricted to ABC, BPR and BSC, all three methodologies which are to some extent applicable to public management processes, but which can be supplemented fruitfully by other approaches like the PSQM which may in most cases be more appropriate.

All three modules are user-friendly and easy to operate. Their methodologies are transparent with comprehensive documentation available. They can be installed as stand alone systems or as a part of electronic networks within Pentium-based, Windows 95 and later operating environments. They provide internet access or can be used as web-based tools, and thus provide access to additional background information or more specialised, technical resources. They are also SQL compatible. Like the CorVu software, the suite comes with a comprehensive support service, that determines their final price of the product, depending on the specific needs of the customer (\$ 10 000 +).

The main strengths of the three QPR software tools include their combined scope, integrating management implementation, analysis and assessment with simulation capabilities. Their main weaknesses for purposes of this paper, include their strong business management focus, and price tag.

### **3 CORMANAGE**

The CorManage programme is one of a suite of three products provided by the CorVu Corporation, originally founded in Australia. The other products are CorBusiness and RapidScorecard ([www.corvu.com](http://www.corvu.com)). The programme is aimed primarily at the business sector, but has also been applied with success in the public sector (eg in the Georgia Dept of Defence and the South Australian Dept of Police). It is based on the balanced scorecard methodology, that, according to the product’s promotional materials, provide “strategy maps” that are visual diagrams of the relationships between causes and effects

(objectives and results) which are empirically testable. CorManage also provides executive dashboard alerts, OLAP query and reporting, forecasting and what-if analysis capabilities. According to its promotional materials, it has been designed to support also other methodologies like Management by Exception, Total Quality Management, EFQM, Six Sigma, ISO Certification, the Malcolm Baldrige Quality Award requirements, the American President's Reward for Quality, and Value Based Management. It also has the ability to retrieve qualitative and quantitative feedback from stakeholders by allowing users to comment on performance results, and then capturing the comments in the programme. Users can in this way "... delineate key success factors, track performance against goals, and perform comparative analysis with industry benchmarks (CorManage Product Brochure, 2001).

It was early in 2001 selected by an authoritative management software evaluation group as its management software product of the month : *"CorManage uses regression analysis of scorecard results to statistically validate models of organizational strategy. After a valid strategy has been formulated, users perform what-if analysis to identify how performance improvements in one area of the organisation impact in another area. The application provides strong data drill-down capacities. Users can easily drill down from a scorecard to tactical data to gain further insight into performance results. Drill objects provide a direct link from a scorecard to another application or application object. These objects may be a graph, another scorecard, a report, a web, a multimedia object, etc"* ([www.checkspex.com/catalog/productsof\\_the\\_month.htm](http://www.checkspex.com/catalog/productsof_the_month.htm), 31/08/2001).

CorManage is a relatively recent product, having been released only in 1999 at a price of \$ 4 000 per user ([www.informationweek.com/761/corvu.htm](http://www.informationweek.com/761/corvu.htm), 31 August 2001). The producer, however, prefer to provide a full support and consultation service with the package, and normally determines the final price after assessing the specific needs of the client. These days the minimum price tag for the full service seems to be around \$ 14 000 ([www.ncal.verio.com/](http://www.ncal.verio.com/)) The programme is user-friendly, with strong visual features. It integrates numerical, graphical and textual data well. The RapidScorecard approach is also part of the CorManage product. The CorBusiness package provides more extensive analytical number-crunching and assessment capabilities, as well as OLAP access to various external databases. Extensive documentation about the products' features, methodologies employed and requirements are available on the CorVu website.

The main strengths of the current version of CorManage, are the powerful analysis, assessment and reporting features of the programme, its user-friendliness and visual strengths. Its main weaknesses are its price and the fact that it is in essence only a balanced scorecard tool designed primarily for the business sector, although it has been applied with success in public sector settings also (especially in healthcare).

The CorVu Corporation has recently announced that it will provide free Balanced Scorecard software for education and training purposes at universities and colleges ([www.corvu.com/headlines/release.html](http://www.corvu.com/headlines/release.html)).

#### **4 PBVIEWS**

This tool is a Canadian product, aimed primarily at the facilitation of strategic business management outcomes, and therefore has a strong programme implementation and assessment capacity ([www.pbviews.com](http://www.pbviews.com)) It is a fully-fledged strategic management tool,

but also allows the user to model and view the organisational structure through an organisational chart diagramme, and then to drill down through various layers of different types of details to access business performance assessment data on the issues in question in order to strategically re-align the organisation towards a more effective achievement of its goals. Balanced scorecard and Malcolm Baldrige methodologies are *inter alia* used for analytical frameworks.

Data can be captured on the system itself, or imported from other sources. It is compatible with the MS Office technology and the Global version also with Oracle and SQL. One can display qualitative, descriptive data, graphs and tables illustrating an issue, and comparing one dataset with another (eg the status quo with a benchmark, industry average, historical case, etc). It also provides access to background information in the form of reports, books, etc, both on paper and via the internet. It also allows a user to compile a briefing book with selected views that can be updated or changed. Different reporting options are available, that can be customised to specific needs. The programme does not only have qualitative, descriptive capacities, but also analytical and quantitative capacities. It is a comprehensive, well integrated tool for management assessment purposes,

It has been developed in Canada and is marketed by Panorama Business Views. It is primarily aimed at the business sector, but the programme is of a generic nature and flexible enough to be customised for public sector application. Three versions are available: A Standard Edition for small enterprises who are still developing performance management systems, an Enterprise Edition for more complex organisations that are geographically spread over different locations and regions, and a Global Edition for even bigger players. All versions have strong network capabilities, and online help and technical support is provided.

PBViews is user-friendly and easy to operate. Its visual capabilities are strong. It requires a Pentium 2 chip, at least 10MB disk space and Windows NT or 2000 technology for optimal functioning. Publicfutures has apparently linked up with PBViews to provide customised management assessment capability for the public sector. One trusts that the results of this venture in the form of an upgraded, public sector-customised product will be available soon. No information about the price tag attached to the product, could, however, be obtained within the time constraints for this paper.

PBViews' main strengths are its powerful integrated management implementation, analysis and assessment capabilities, as well as its user-friendliness, visual capabilities and envisaged adaptation to the public management environment through the effort of Publicfutures. In contrast to some of the other products summarised here, it does not consist of separate specialised products, but is a tightly integrated tool within one programme. Its cost will, however, probably determine its eventual popularity.

The above standalone products are not the only ones that are available for these purposes. Many other diverging products featuring different management assessment capabilities, exist (see for example [www.quantisoft.com](http://www.quantisoft.com), [www.inphase.com](http://www.inphase.com), [www.gentia.com](http://www.gentia.com), etc). As a result of the different approaches that they follow and their differences in focus, it is very difficult to compare them effectively in this type of assessment. The above summary of the four selected programmes was therefore not intended as a comparative evaluation, but purely as an exploratory identification of some trends towards electronic policy assessment.

## CONCLUSIONS

There was a dramatic increase in the use of knowledge and information technologies in society over the last decade, and a general international trend towards a closer integration of information technology with virtually every policy sector imaginable (even to extent of placing electronic bar codes into refuse bags to determine contents and ownership, for charging user fees). This implies that the public sector will have to keep up with these developments if it wants to fulfill the expectations of its citizens, and provide public services of the required quality and quantity.

A general acceptance of this point of view has so far been delayed and complicated by :

- Insufficient appreciation of the utility of such tools;
- open suspicion of and even deliberate resistance against the increased use of electronic tools in public management, linked to
- the complexity of digitising existing programmes, and
- low levels of computer literacy,
- serious resource constraints in the face of different priorities, especially in developing countries.

The use of electronic management assessment tools can, though, provide important benefits to public management outcomes, including :

- the education of public officials in information technology, and through this,
- achieving more systematic management design, implementation and assessment of public programmes,
- facilitating the development of a culture of performance,
- capacity-building for more effective and efficient service delivery, and thereby,
- fulfilling better the governance functions of the state.

A variety of electronic management assessment tools exist currently, and are used or are under development in various countries to try to enhance the quality of public policy management outcomes. Many more such ventures are probably also already under way. Unfortunately, it seems as if no single tool exists at the moment to undertake the tasks in the management assessment framework conceptualised above. The combined effect of still developing technologies, and the insufficient appreciation of the utility of such instruments, referred to above, resulted in a situation that is not at the moment fully conducive to such developments. It is, however, an open question whether in ten years' time, public sector agencies and their staff will not be fully reliant on these instruments, in order to do what they are supposed to do. Another open question is whether any government who does not embrace the new technologies for these purposes, will be able to provide the required levels of services, or to compete with other service providers in an environment of open competition, or even survive as governments in future.

The author is currently engaged in pursuing research into the **identification and development of more appropriate electronic public management support tools**. The paper represents a **summary of work-in-progress regarding standalone policy assessment tools** . More concrete results of the more comprehensive study will be

available in due course. Persons who are Interested in any aspect of this venture are invited to contact me.

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