POLICYMAKING, MEASURING FACTS, AND STATISTICS

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Abstract

Transparency in the public policymaking process is currently a "hot issue". But what do we mean by transparency? Is the policymaking process transparent if all policy decisions are published by the media? The answer is no: transparency is more than that! To obtain transparency, the intention of (1) defining results in a measurable way, (2) measuring the results and (3) communicating the results and the original objectives, is a condition sine qua non. Official statistics provide an enormous experience in measuring methods and practices how to measure changes and situations in reality.

This paper (1) gives a short overview of statistical methods, (2) shows a model of the policymaking process, (3) explains the meaning of transparency in policymaking processes, (4) shows the importance of the use of statistical methods to implement transparency in policymaking processes, and (5) gives guidelines for improving transparency in public policy processes.

The content of this paper results partly from the dissertation of Stol "A framework for evidence based policymaking using IT" (2009)[1].

1. INTRODUCTION

In public policymaking processes often indicators are used to underpin the policy decisions. Those indicators may refer to situations in the Social or Economical System that need to be improved by the policy decisions proposed. The indicators used require objective measurement of facts in reality. This is not always easy to realise. There are technical challenges as well as political challenges to overcome.

Some technical challenges are (1) knowing the population, (2) defining the indicator, (3) measuring the data, and (4) producing the indicators.

Even more than the technical challenges, the political challenges are important to recognise: (a) is the intention of the policy indeed to change the established part of reality, (b) is it possible to realise the intended goals, and (c) are we prepared to show the results during and after the realisation of our policymaking process.

Transparency in policymaking is possible if it is the express wish of the politicians to formulate and evaluate their policy in terms of (objective formulated) representations of the real world. This paper presents a framework for transparent policymaking, based on the willingness of the politicians and the availability of statistical means and methods.

The Official Statistical System provides means to facilitate the transparency in the policy making process. This is why I introduce in Chapter 2 of this paper some statistical basics. Official Statistics focusses on measuring facts in the real world and so they are supposed to give an objective view on reality. Chapter 3 elaborates on the policymaking process. Using the so called systems approach a framework for the policy making process is presented. By using this framework, objectivity and transparency in the policymaking process may be obtained. Chapter 4 gives some conditions for transparency in the policymaking process applying the framework. Chapter 5 shows how Officials Statistics contribute to (1) the formulation of the objectives, (2) the creation of the indicators and (3) the evaluation of the policymaking process. This paper ends in Chapter 6 with some guidelines for the politicians and statisticians in communicating in the process of transparent policymaking.

2. SOME STATISTICAL BASICS

Two quotes from Wikipedia concerning "Official Statistics" (30-11-2010) are listed below:

(1) "Official statistics are statistics published by government agencies or other public bodies such as international organizations."

(2) "Official statistics should be objective and easily accessible and produced on a continuing basis so that measurement of change is possible. Official statistics:

- result from the collection and processing of data into statistical information by the government institution responsible for that subject-matter domain. They are then disseminated to stakeholders and the general public. Statistical information allows users to draw a relevant, reliable and accurate picture of the development of the country, compare differences between countries and changes over time. They

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[1]) See also Stol (2011).

enable stakeholders and decision makers to be well informed and develop policies for addressing actual development challenges.

- make information on development accessible to the public and therefore assist in the accountability of public decision-making. One use of official statistics is to measure the impact of public policies and highlight the need for development."

The references on Wikipedia show how statistics are related to public policymaking and how statistics need understanding of the reality in order to provide unambiguous information about reality. This section describes basics on Official Statistics to be considered in the discussion on transparency in public policymaking. Before doing so, some of the principles of statistics are explained: the meaning of data, meta data and information[2]). The understanding of these concepts is important for the definitions of the metadata to be used in the process of Official Statistics.

Data is a structure intentionally arranged into a medium to represent by this structure a part of reality (data has no meaning). A *message* is a reference to a part of reality as interpreted by the receiver of the data. *Information* is new knowledge derived from (1) the old knowledge and (2) the knowledge implied by the absorption of the message.

In semiotics and linguistics a distinction is made between the syntactical, semantical, and pragmatical levels of communication (see, e.g., http://en.wikipedia.org/wiki/Semiotics, Chomsky, 1975, Nielen, 1976, and, Stamper, 1996[3]). *Syntax* is the study of principles and rules for constructing sentences in natural language. Syntax is about symbols and a combination of symbols. *Semantics* is the study of interpretation of signs within particular circumstances and contexts. Semantics is about the references to the real world; it gives the relation between the symbols and the objects to which they refer. *Pragmatics* is the study of the ability of the of natural language speakers to communicate more than which is explicitly stated. Pragmatics is about the intended meaning in the communicated language; it gives the relation between the symbols, the use, and the effects.

In Table 1, the above defined concepts are related to each other in a matrix. For most of the cells different sets of metadata are relevant for the combination of the level and concept symbolized by the cell.

This matrix is called: The *Metadata Matrix*[4]. The Metadata Matrix provides a frame of reference for the definition of the kinds of metadata to be used in the communication in the policymaking process. In the first place it may be applied on the indicators to be defined as target of the policymaking. Secondly, it may be used in the definition of the data to be captured for the measurement of the policy results. Last but not least, it gives guidelines for the presentation of the indicators showing the result of the policymaking.

concept \ level	A: data	B: message	C: information
I : syntax	IA: Structure put in the medium to represent the data	Not relevant	Not relevant
II: semantics	IIA: Reference to reality as meant by the sender of the data	IIB: Reference to part of reality as interpreted by the receiver	IIC: Reference to part of reality in the context of the frame of reference
III: pragmatics	IIIA: Choice of the medium and structure so that the receiver of the data can interpret them	IIIB: The meaning of the data for the receiver	IIIC: What is the effect of the new knowledge on the receiver of the data

Table1: The Metadata Matrix.

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[2]) See: Stol, 2009, Sundgren, 1975, Stol, 1990, and IFIP, 1998.

[3]) In this context the Semiotic Framework by Stamper (1996) is worth mentioning. In this framework, Stamper distinguishes the IT platform and the human information functions. In the IT platform the framework presents the following three levels (1) physical world, (2)empirics, and (3) syntactics; in the human information function we see (1) semantics, (2) pragmatics, and (3) social world are recognised.

[4]) A Dutch version of this Metadata Matrix is published in Stol (1995a) and in English in Stol (2002b). In these publications the physical level was the fourth level referring to the media used in the communication process. Since this level does not contribute to the metadata models presented in the context of this thesis, I have omitted the physical level.

In the Statistical System the concept of "indicator" is used as item to address the progress of situations or processes. It is important to be aware that the concept of indicator is identical to the concept of the formulation of objectives as has been described above. The requirements for the specification of the objectives regard directly the use of indicators. Indicators are the same, or equivalent with, the terms in which the objectives are specified. A statistical indicator is defined as "a data element that represents statistical data for a specified time, place and other characteristics". [5]

The Metadata Matrix provides the definitions of the metadata that are relevant for (1) the objectives and the related indicators and indicator values, (2) the measurement of the results, and (3) the dissemination of the intended values of the indicators versus the realised ones. Applying the Metadata Matrix on the *output process (i.e. the dissemination of the results)*, the user of the output is the "receiver". The statistical system in its role as producer of the indicators (or better indicator/value combinations) is the sender of the data. Examples of questions to be answered on the metadata are in this consideration: What kind of metadata do we need, to make sure that:
(1) the data refer to the part of reality meant by the Statistical System?
(2) the choice of the medium and structure of the data meet the requirements of the receiver?
(3) the meaning of the data for the receiver is the same as meant by the Statistical System[6]?
(4) the data once interpreted by the receiver refer to the part of reality as meant by the Statistical System?
Normally speaking "unambiguous and objective" indicators are to be provided, so that we should not bother on the effect of the data (cell IIIC in the Metadata Matrix) [7].

The metadata to be considered for the *input process* (the process providing the observations in the Object System of Interest) are briefly discussed below, in particular as far as e-datacapture is concerned. This means in terms of the matrix that: (1) the sender of the data is the respondent[8], (2) the receiver of the data is the (automated) part of the Statistical System that registers the data so that they can be used in the further process, leading to the indicators. In Table 2 the relation between the cells defined in the Metadata Matrix and the parts of the e-datacapture system in which they are addressed is shown.

Cell in the Metadata Matrix	Statistical e-datacapture system
IA : Structure put in medium to represent the data	Questionnaire form.
IIA: Reference to reality as meant by sender of the data	Questionnaire responses, link with data in information system of data provider.
IIIA: Choice of medium and structure so that the receiver of the data can interpret them	The software for the e-questionnaires needs to be available for a great part of the respondents; this means that media used are accessible for all of them, as well as the data formats used. (E.g., Internet and XML.)
IIB : Reference to part of reality as interpreted by the receiver	The definition of the questions and support files used for explanation of the expected answer (code systems, nomenclatures).
IIIB : The meaning of the data for the receiver	Availability of electronic links between the questions and the content of the business administration, may assure the data receiver that the data filled in are according the bookkeeping.
IIC : Reference to part of reality in the context of the frame of reference	Question answers received and stored in the environment of the data collector.
IIIC : What is the effect of the new knowledge on the receiver of the data	The effect of information for the receiver of the data (the Indicator System) may lead action from the receiver (e.g. asking for explanation of unexpected differences with former messages).

Table 2: Metadata of data-capture system.

If the indicators are defined as required the measurement of the results will be according the basic rules, preferably determined at the moment that the objectives are established. Of course, the population should be known defining the objectives as well as on the moment of measuring the results. Depending on the

[5]) Economic Commission for Europe of the United Nations (UNECE), "Terminology on Statistical Metadata", Conference of European Statisticians Statistical Standards and Studies, No. 53, Geneva, 2000.
[6]) The definition of the meaning of the data is a well know challenge for statisticians: how to add the proper metadata in order to transfer the data as they are meant.
[7]) Transparency requires producing unambiguous data without considering the pragmatical effect of the information.
[8]) In practice, the respondents can be households and enterprises.

subject of the policy different kinds of measurement methods may be used, varying from survey to the use of administrative data. To avoid administrative burden on the respondents Statistical Offices often use administrative data, provided for other purposes than the policy subject at hand. One should be aware of the metadata of these administrative data. Quite often data seem to refer to the same object or object group, but in fact refer to other objects or object groups, because the objective of measuring reality differs.

The last step in the statistical process is the dissemination of the results. The metadata matrix and the basic rules for transparency show that (1) the indicator/value should refer to the part of reality addressed by the policymaking, (2) the choice of the medium and structure of the indicator/value should meet the requirements of the receiver, (3) the meaning of the indicator/value for the receiver should be the same as meant by the Statistical System, and (4) the data once interpreted by the receiver should refer to the part of reality as meant by the Statistical System.

Finally, a few words on the use of data from earlier policymaking processes, to improve the quality of new policy decisions. Literature on Evidence-based Policy Making, shows a variety of opinions on the pro's and con's of using data of earlier policymaking experiences for new policymaking (see e.g. Dorey, 2005, Cabinet Office, 1999, Pawson, 2006). In some cases, like health care (McCaughey, 2010); it is clear that results of former experiences are worthwhile to prelude upon. In situations when policymaking addresses a new situation (other circumstances, other issues) it is not always clear how evidence can be obtained. In these cases one should be very careful and not use data that are not in line with the policy that is at hand. The use of EBPM in a broad sense (Stol, 2009) forces politicians to think about their objectives in terms of objects and object groups (measurable objectives), and by doing so the quality of their decisions may improve. Since they are (1) related to reality, (2) measurable and (3) transparent.

3. A FRAMEWORK FOR THE POLICYMAKING PROCESS

In every policymaking process the objective of changing (aspects or parts) of reality is at stake.[9] Although policy decisions within the policy-making process can be rather diffuse and non-rational, the process always results in a decision to change reality[10]. After a policy decision, the outcome of the decision should be implemented according to the objectives formulated in the decision. An example of an outcome of a policy decision is legislation, followed by regulation, then by an appropriate implementation by the authorities, and thereafter by controlling the implementation. Whatever the way of implementation, the result counts: the change in reality according to the objectives decided upon by the policy makers. This line of reasoning will be followed when presenting the Framework for the Policymaking Process.

Policymaking is definded as: the process by which governments translate their political vision into programmes and actions to deliver "outcomes" - desired changes in the real world. (Cabinet Office, 1999). The concept of policy making according to this definition does not give a decisive answer to the question on the scope of policymaking. The definition suggests that policymaking ends with programmes instead of changes in the real world. Therefore we introduce the concept of the policymaking process.[11]

The *policymaking process* includes (1) the process of setting and directing the course of action to be pursued by governments, (2) the realisation in the real world, (3) the measurement of the results, and (4) the evaluation of policymaking. The policymaking process covers the whole change process from the existing situation to the desired one. The existing situation is the real world that is the object of the policy decision. The desired situation should be the real world adapted to the objectives aimed at by the policy decision. The change process is at least as important as the policy decision making. Without an effective change process the objectives will not be achieved and subsequently the decision process will not succeed.

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[9]) Althaus (2007) formulates this as follows: "Public policy is ultimately about achieving objectives. It is a means to an end. Policy is a course of action by government designed to attain certain results."

[10]) Policy decisions that do not have the objective to influence, and therefore change reality will not be considered as policy decision as part of policy making.

[11]) A comparable definition is given by Spiller et al. (2003, p. 4).

Hereunder the Framework for the Policymaking Process (PMP) is presented (Stol, 2009)[12]. Implementation of the framework enables the transparency of the PMP. A framework for the PMP process should support the quality of the policymaking process. Transparency and verifiability in the PMP are necessary to optimize the quality in decision making. This means in the first place that the PMP should be structured so that all steps can be clearly defined. Although people may argue that every individual policy decision is different because of different situations, objectives, and circumstances (see, e.g., the approach by Davies, 2001), there is always (on a certain level of abstraction) the possibility to structure the process (see, e.g., Easton, 1979; Checkland 1999; de Leeuw, 1982a). This is not only useful to transfer knowledge about politics (Dorey, 2005) but also to make the process transparent and measurable. The framework for the PMP provides the elements and structure for a PMP, so that individual cases can be judged and analyzed, and, even more, can be designed so that the process gains in transparency and verifiability. In the framework, the Evidence-based Policy Making (EBPM) is considered as a controlling system over the part of reality that is the objective of the PMP. We call the part of reality that is the target of the PMP: the Object System of Interest.
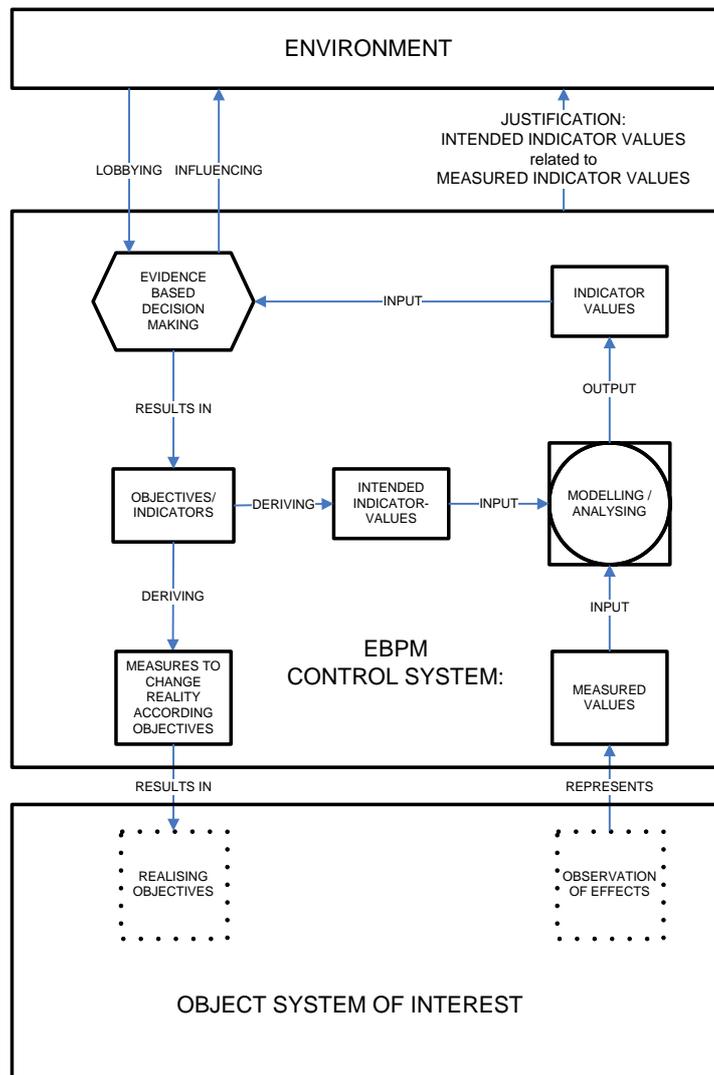

Figure 1 : Framework for Policy Making Process

The EBPM control system has three main relations with its environment.

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(1) Actions directed toward its environment in order to obtain the best possible policy decision (high quality and acceptance).
(2) Receiving reactions and lobbies of interested parties in its environment.
(3) Producing justifications towards its environment for the policy measures achieved.

The EBPM control system itself consists of seven interconnected parts.
(1) The Evidence-based Decision Making (EBDM), in which the policy decision is made after interaction with the environment.
(2) The determination of the objectives and the kinds of indicator to be measured to clarify the results of the policy measures compared with the objectives.
(3) The derivation of the values of the indicators as representation for the achievement of the objectives..
(4) The determination of the measures to change the relevant part of reality according to the objectives.
(5) The measurement of the results of the policy measures.
(6) The analysis of the results of the measurement versus the intended values of the indicators.
(7) Producing indicator values as representation of the results achieved by the implementation of the policy measures.

Evidence-based Decision Making is the part in which the politicians arrive at the policy decision. Although each decision making process is different and its progression depends on many factors, one may recognise similar elements in all of them. In the context of this paper the following three similar elements are relevant.

(1) The policy decisions refer to an Object System of Interest. The complexity of the Object System of Interest may differ and may lead to differences in (a) the scope of the decision and (b) the organisation of the Change Process.
(2) The kinds of decision process can be categorised varying from rational to more or less random. The most appropriate category for a unique decision process depends on its characteristics (routine decision, complexity Object System of Interest, available information for decision making, see also Stol (2009)).
(3) The content of the policy decision refers to a part of the real world. This means that for each policy decision an interaction exists with the environment that will be influenced by the decision (lobbying, interest groups, etc.). This is a factor that is often used by politicians to escape from EBPM. Their argument is that it is never possible to convince every participant in the Society involved in the decision making. A negative side effect of taking too much time for achieving a most satisfying decision is that the Object System of Interest can be changed and the issue under discussion is no longer actual.

Considering the divers options for a decision, information of former outcomes of PMP's play a role. According to the literature on EBPM this is considered an important asset to achieving the best possible decision.

In the framework of the PMP the significance of the indicator values is emphasized, produced and analysed as result of former policy decision in the relevant area. These figures may be used for (1) new decisions in the relevant area, (2) continuing the policy measures, and (3) changing the former policy measures.

The Tramework for PMP provides the means to make the PMP transparent and measurable. However, there are circumstances in which the framework can be applied with more success than in other situations. The EBPM control system must fulfill the following three requirements for effective control of the Object System of Interest (Stol, 2009, de Leeuw, 1982).
(1) The objectives must be unambiguous and clearly formulated in terms of situations to be obtained in the Object System of Interest.
(2) Full knowledge of the Object System of Interest. This knowledge covers the current situation and the desired situation but also the way to obtain the desired situation and the status of the situation in the Object System of Interest during the Change Process.
(3) Diversity in controlling measures for an effective control of the Object System of Interest: (a) adaptive measures to change the organization of the Change Process and (b) goal changing measure to change (parts of) the objectives.

In the specification of the requirements for effective control of the Change Process in the Object System of Interest the distinction between the role and responsibilities of the Political System[13] and the government is

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[13]) The Political System consists of politicians and the part of the government that may be organized in the same institution as the part of the government that is responsible for the control of the execution of the Change Process.

important. The responsibility for the full control over the Change Process is shared by the Political System and the government. In the division of this task the Political System is in charge as soon as deviations occur in comparison with the original notions.

Although special circumstances can be assumed leading to declining evidence-based policymaking, it is hardly possible to raise arguments for denying the fact that consequences of policy decisions can be measured to verify the promises made by the politicians. (Stol 2009, p. 36)

Non-rational behavior in the *evidence-based decision making process* (EBDM) does not mean that the framework for the PMP is not effective. The reason is that all other parts of the framework can be executed in the flow of the proposed one. Indeed, one could argue that rational decision making leads to a better quality of the decision itself (cf. Cabinet Office, 1999). This may be true, but it does not necessary mean that the execution of the policy measures following the decision is transparent and measurable. The Garbage Can model (March and Olsen, 1979) seams to occur frequently (Koundouraki, 2007). When the decision process takes place according to the Garbage Can model the policy decision is a more or less a coincidental combination of (1) solutions, (2) problems to be solved, (3) people, and (4) choice opportunities.

As the decision process is isolated in the framework the only prerequisite for a successful use, is that the output of the decision process can be transformed in concrete objectives to be realised in an (well defined) Object System of Interest. In the day-to-day practice of public policymaking the relation between the policy decision and the objective in terms of intended changes in the reality is missing. If this relation cannot be determined, it is not possible to measure the outcome of the policy measures. In that case the use of Official Statistics is not is not a serious option, nor the intention of being transparent in the PMP.

In the Political System people are chosen based on their position in a political party and the promises (in the context of the persuasiveness of their arguments) of their program. These politicians should be aware of the need of transparency and measurability of the PMP. Sometimes this may mean that they explicitly have to admit that their promises cannot be realised. The reasons for this may be (1) compromising with other politicians, (2) other circumstances than anticipated, or (3) consciously promising more than they can substantiate. When the politicians prefer to hide their deviation of the promises, they will tend to make the PMP less transparent and verifiable so that the deviations are not so visible.

Three circumstances may influence the effectiveness of the use of the EBPM framework: the complexity of the Object System of Interest, the complexity of the organization, and unpredictable events.
(1) The complexity of the Object System of Interest and elapsed time from the start of the Change Process until the achievement of the outcome, play an important role in the possibility to control the Change Process in an effective way (Bouchard and Caroll, 2003). Although measures can be taken to lower the complexity of the Object System, this will not always be sufficient. In some cases it is not possible to measure the effect of the policy measures because of the number of variables and uncertain behavior of the Object System in its environment.
(2) The organization in the Political System and the organization of the Change Process may be quite complex cf. Bouchard and Caroll (2003) . There are various measures to adapt the organization of the Policy System and the Change Process to the specific policy issue. Nevertheless these measures may not always work, especially when different political issues require conflicting organizations.
(3) Unpredictable events may happen or unknown effects may occur that change the Object System of Interest and/or its relevant environment during the Change Process. Taleb (2004, 2007) shows many examples of unexpected events and unknown effects of (policy) measures. Contingency planning may be effective to minimise the consequences of these events.[14]

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[14]) Contingency planning to avoid disturbances in the Object System of Interest may be quite expensive. Compare the organisation of the Olympic Games in China where every possible circumstance has been envisaged in the preparation of the Games. The expenses have been never so high (about 25 billion euro) and probably will not be exceeded in the future. For instance, the budget for the next games in London is 13 billion euro.

4. TRANSPARENCY IN THE POLICYMAKING PROCESSES

A PMP is transparent if a full, accurate, and timely disclosure is given of the content of the process. The concept of transparency in the PMP can also be used in the context of evidence-based review (cf. Pawson, 2006, pp. 42 and 79). In that case transparency means that the review process is transparent. So, one may expect that policy decisions based on the evidence produced by the review are of a better quality than decisions that are not based on evidence.

In Stol (2009) the relation between the quality of the PMP, and transparency of policymaking has been in depth reviewed. In his analysis also the verifiability and measurability of the effects of the PMP are taken into account. The following three statements summarizes some conclusions on the concept of transparency in the PMP.

Statement 1. The policymaking process (PMP) covers the whole process, from decision making up and until the evaluation of the implementation of the policy.
Policymaking (PM) is the process by which governments translate their political vision into programmes and actions to deliver "outcomes"- desired changes in the real world (Cabinet Office, 1999). This definition of policymaking may suggest that policymaking ends with programmes instead of changes in the real world. Policymaking always intends to change aspects or parts of the reality.[15] Therefore, considering the effectiveness of the policymaking process means that we must take into account (1) the process of setting and directing the course of action pursued by government, (2) the realisation of the actions in the real world, (3) the measurement of the results, and (4) the evaluation of the policy.

Statement 2. Transparency inheres verifiable and measurable observations of changes in reality due to policymaking.
A transparent PMP is a process by which a full, accurate and timely disclosure is given on the content of the process. Verifiability of the PMP is the possibility to ascertain the correctness of all the information about the steps in the PMP. The effects of the PMP should be measurable (if this is not the case: verifiability and transparency are out of question). This means that the following situations in reality should at least be measurable: (1) the reality that is relevant for the realisation of the objectives at t+1 versus the expected relevant reality at t, (2) the implementation of the objectives versus the original objectives, (3) the relation and the expected relation between the target of the policymaking process (at t) and its environment versus the actual relation at t+1. Verifiability as well as measurability are preconditions for full, accurate and timely disclosure on the content of the PMP (=transparency).

Statement 3. Transparency in policymaking improves the quality of the policymaking process
Transparency in policymaking is not only important because of the populism: people "force" nowadays their representatives in government to explain clearly (1) what they want, (2) how they want to realize this, (3) how they want to measure the results of their intentions and (4) how they want to explain the results versus their intention. Transparency is also a characteristic of the policymaking process that is closely related to the quality of the policymaking process (Stol, 2009). The objective of policymaking is achieving the desired changes in the real world. So, the quality of policymaking is as high as possible if all the desired changes in the real world are achieved. The effectiveness of the policymaking process is related to its quality and its transparency.

5. STATISTICS AND TRANSPARENCY IN PMP

Applying the Framework for PMP is a precondition for obtaining transparency in the PMP. After the policy decision making the objectives should be determined as follows: (1) the objectives must refer to a part of reality, (2) the objectives must be measurable, and (3) the objectives must be verifiable. The consequences of these requirements are:
(1)   The objectives should be formulated in terms of objects (or object types) and their intended values, after the realisation of the policy. The values are attributes of the objects (or object types) and include a reference to the time on which the values should be achieved.

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[15]) Althaus (2007) formulates this as follows: "Public policy is ultimately about achieving objectives. It is a means to an end. Policy is a course of action by government designed to attain certain results."

(2) The values of the objects (including time) must be measurable. This means that before the objectives are determined, the method for measuring the realisation of the objectives can and must be established.

(3) The values of the objects must be verifiable. It must be possible to ascertain the correctness of the information about the realisation of the objectives.

An optimal use of Official Statistics and the Statistical System in transparency of the PMP may be obtained if the following conditions are fulfilled:

(1) The Statistical System is involved in the definition of the objectives and the indicators. It is still common practise that politicians formulate their objectives in such a way that (a) the results are not related to reality and consequently (b) are not measurable. Statisticians are used to measure situations and events in reality, they are aware of what can be measured and how to define objectives in a measurable way. A close cooperation between politicians and statisticians will improve the measurability of the objectives and therewith the transparency of the PMP.

(2) The Statistical System uses the same principles for the definition of the indicators representing the objectives, as it does for the indicators showing the results of the PMP. Actually the measuring method (definition of population, sampling method, etc.) to be used for the creation of the "output" indicators may be determined at the same moment as the "target" indicators are established.

(3) The Statistical System uses unambiguous and identical metadata for the definition of the indicators to be realised as well as for the definition of the outcomes of the PM.

(4) The Statistical System uses metadata models in which all references between reality, addressed by the PM, and the indicators are transparently shown.

6. GUIDELINES FOR IMPROVING TRANSPARENCY IN PMP

Politicians and statisticians can fruitfully cooperate by using common metadata models on (1) objectives, (2) measurement, (3) dissemination of figures and (4) justification of PM. In Stol (2009, Section 6.3) examples of the metadata models on objectives, measurement and presentation (dissemination and justification) are proposed, to be used as guidelines for the cooperation between politicians and statisticians. In figure 2 three models are shown, representing the items that are relevant for a common understanding: (1) the model of the objectives: this model represents the changes to be realised by the PMP as values of the object types concerned, (2) the model of the measurement, in which the data measured are in the centre, and (3) the model of the dissemination of the results, showing the results of the measurement for justification and use in future decision processes.
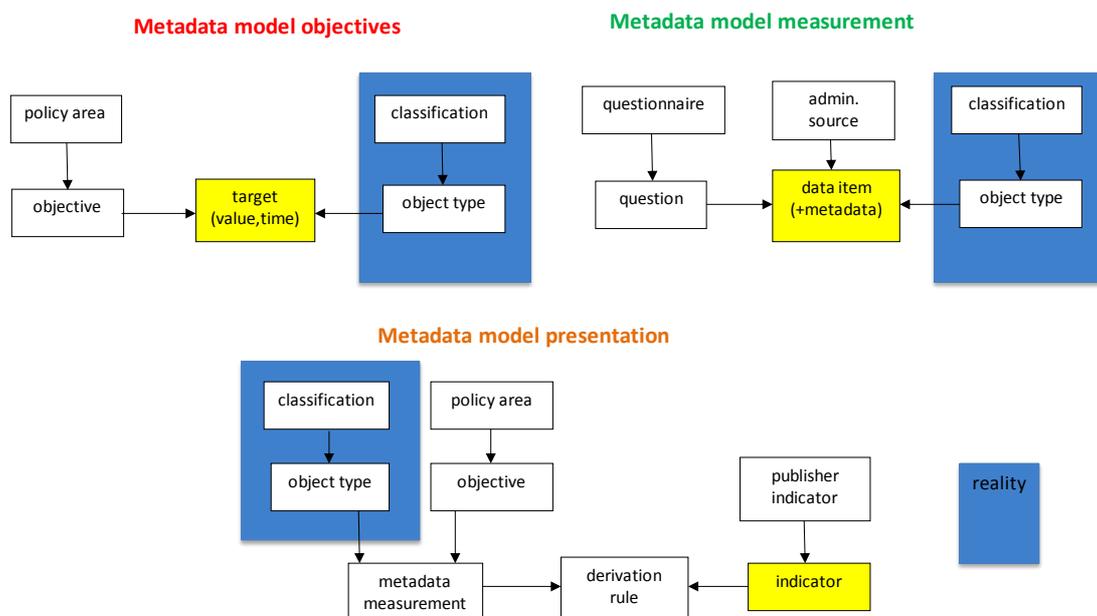

Figure 2 : Metadata models

In ICT these kinds of models are called metadata models. They are basically the starting point for the building of databases.

 Implementation of these models may force politicians and statisticians to talk and communicate about the same part of reality. If they do so the citizens may be assured that the promises made by the politicians and the implementation can be verified by reliable indicators. People in ICT are used to make schemes and models. The information systems they make, are independent from the occurrences. The information systems must work overtime and will process data on thousands, even billioens, of objects. So models in which object types are defined are a condition sine qua non in ICT. Some politicians consider these models mostly as very abstract (sometimes even statisticians do). The following example of the use of the models shows how a policy to improve the use of ICT in a country can be formulated in terms of objectives, measured and justified. On the left side of the table 3 shows the objectives, the right side the results. The policy areas involved are (1) digital public spaces, (2) e-education and ICT industry. In the second column the objective for each of the areas are mentioned, the third column shows the target indicators, the fourth column the population, the fifth column the way of measuring the results and the sixth column the indicators (results of policy).

issue	objective	Indicator (value: target on date)	population	survey	Indicator (value: result on date)
Digital public spaces	Spread use of ICT over the country by development of digital public spaces	# private Internet cafes # Internet connections in youth centres	Telecommunication companies Providers	Administrative sources	# private Internet cafes # Internet connections in youth centres
E-education	More citizens acquainted with use of ICT	# schools with media rooms # yearly graduates in ICT # people working in ICT after study	Inhabitants: 10 – 30 years	Administrative sources and sampling	# schools with media rooms # yearly graduates in ICT # people working in ICT after study
ICT industry	Stimulation of ICT sector	# employess working in ICT sector Annual turnover in ICT sector	ICT businesses	Administrative sources and sampling	# employess working in ICT sector Annual turnover in ICT sector

Table 3: Example of use of metadata models

I conclude this paper with a few recommendations for politicians, statisticians and the media.

The politicians should ask themselves each time they formulate objectives: are the objectives related to reality, to concrete objects that are to be changed by the PMP? If it is not possible to define the objectives in such a way: forget about transparency. A second question for the politicians is: can we define the objectives in a measurable way? A negative answer means transparency is again not an option. If the answer is yes: the objectives can be defined in terms of real world entities. For example number of graduate students in IT, number of jobs in defined innovation functions, turnover defined in innovative sectors of industry.

For the statisticians I suggest that they always answer the questions: (1) do we know the population (p.e. students, innovative functions, etc., (2) can we determine the metadata, (3) can we measure the results, (4) do we have or do we need reference data, (5) can we measure in an efficient way (is it possible to use administrative data), and last but not least, (6) can we disseminate the indicators in time for the justification of the policymaking and for the subsequent use in new policymaking processes?

Media play a role in the dissemination of facts on the targets of the policy making and of the realisation of the policy making. As long as the behavior of the citizen is influenced by the media, these media play a role in the transparency of the policy making process. The media tend to emphasize the details of the policy decision making process. The background and the motives of the politicians in policy decision making is always a hot issue for the media. Concerning transparency in policy making media should focus more on the results of the policy making process and on the monitoring by the politicians of this process.

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