

# Four Dimensions Affecting Policy Resistance In It Procurement

By Mathieu Paapst

*The Dutch strategic IT plan “Netherlands Open in Connection” intends to give a direction for public sector buyers to adopt a positive policy and strategy towards open standards, Open Source Software and the use of ODF. This article describes the support and resistance of the policy by government buyers found after researching the documents of 80 tenders, and after interviewing 15 government buyers. In this article the awareness knowledge threshold and four dimensions are described that together can function as an interpretative framework helping policy makers understand why an IT-related policy is supported or resisted. The four dimensions in the proposed framework establish the relative advantage that will influence the degree of willingness to adopt and use a new strategic IT policy. When there is a negative influence within a dimension the policy maker should counterbalance that influence by using a positive instrument within that same dimension.*

## Introduction

In December 2007 the Dutch government agreed on the action plan Netherlands Open in Connection, hereafter called NOiV, the Dutch acronym. The objectives of this strategic plan are the following:

1. increase interoperability by accelerating the use of open standards;
2. reduction of supplier dependence through a faster introduction of open source software, open standards and the use of ODF (a document format based on an open standard);
3. promotion of a level playing field in the software market (...) by forceful stimulation of the use of open source software, and by giving preference to open source software during the process of IT acquisition.

To reach these goals the action plan describes a number of different policies for open standards and open source software. A vast number of these policies directly affects the process of IT procurement within government organisations. To understand why some objectives are supported and some are resisted by government buyers, the following question for a PhD research was selected: How and under what circumstances does a strategic IT plan influence behaviour regarding the practice of public tenders? If these circumstances can be identified it would become possible for policymakers to take them into account while designing future strategic IT policies. It would also become possible to make predictions about the expected performance of existing strategic IT plans like the European digital agenda<sup>63</sup> or the British Government ICT strategy.<sup>64</sup>

## Research And Methodology

To answer the research question a conformance and performance research methodology is used (Maarse, 1991). This

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<sup>63</sup> [http://ec.europa.eu/information\\_society/digital-agenda/index\\_en.htm](http://ec.europa.eu/information_society/digital-agenda/index_en.htm)

<sup>64</sup> [http://www.cabinetoffice.gov.uk/sites/default/files/resources/uk-government-government-ict-strategy\\_0.pdf](http://www.cabinetoffice.gov.uk/sites/default/files/resources/uk-government-government-ict-strategy_0.pdf)

methodology focuses bottom-up on the influence a strategic policy has on the behaviour of a targeted organisation during the policy implementation phase (Barret, 2004). A strategic policy is fulfilling its purpose if it plays a tangible role in the choices of the addressed policy takers (Faludi, 2000). Through monitoring information is produced about the observed policy outcomes (conformance) and through evaluation the research produces information about the value of the observed policy outcomes (performance).

## Monitoring

To see how the Dutch strategic IT policy is enacted in practice, empirical quantitative research was carried out which asked for the data of all the Dutch calls for tender, published in Tenders Electronic Daily (TED) between January and June 2010, that followed the open procedure and that consisted of the delivery of software of some kind.<sup>65</sup> Out of the total sample of 94 calls, data relating to 80 tenders was received, a response rate of 85 %. All these tender documents were examined on different aspects and policies, such as the needs or want for open standards, vendor-independent award criteria, the possibility to use ODF for the bid, and the possible preference for open or closed source products. The goal of this quantitative research is not to generalise the outcome, but to see if during a certain period the policy has been supported or resisted. The collected data from this quantitative research is needed to give input and meaning to the

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<sup>65</sup> The tenders that asked for Voice over IP technologies or printer hardware with printer drivers were not included in the sample of 95 tenders due to technical expertise limitations.

subsequent question why the strategic policy is resisted or supported (De Lange, 1995).

## Evaluation

The quantitative research provides insight into the expected effect of policy decisions in IT procurement. It does not provide insight into the arguments and reasoning behind this application or into the resistance of the policy. It also does not provide an answer to the question whether any found compliance is a direct result of the policy or might be the result of something else. It is not possible to evaluate policy outcomes without establishing that it is an outcome in the first place (Dunn, 2008). To identify these factors further qualitative research was needed within organisations in order to look into the so-called black box of decision-making (Hertogh, 1997). That qualitative research was done during the period between January and April 2011 through in-depth semi-open interviews with 15 respondents in different organisations selected from the quantitative research. These respondents were all public sector buyers with an expertise in IT procurement.

## Quantitative Results

The following results emerged from the quantitative research of some Dutch policies:

### *Policy 1: The use of open standards falling under the CorE principle*

The Comply or Explain principle, in short CorE, primarily intends to give a direction for organisations in the (semi-) public

sector to adopt and use a certain (open) standard within a specific domain or application area. The selection of these standards and domains is done and published by the Dutch Standardisation Board.<sup>66</sup> In practice it means that within a procurement process the contracting authorities are expected to ask for these specific open standards when applicable (Comply) or otherwise should explain in their annual report why they did not ask for them. This policy helps standardisation within the public sector and supports interoperability.

The quantitative research revealed that the Comply or Explain principle was applicable in 56 cases and a specified open standard should have been asked. Out of these 56 cases there were 20 cases (36%) in which the tender documents followed the policy and actually mentioned a need or want for one or more open standards. In the remaining 36 cases (64%) the CorE standards were not requested. In the annual reports no formal explanation has been published by the noncompliant organisations.

<b>Request for open standards</b>	<b>Frequency</b>	<b>Percent</b>
Yes	20	35.7
No	36	64.3

*Table 1: Frequency of needs and wants for CorE open standards*

## Policy 2: The use of ODF

Open document formats are important for the exchange and processing of documents within organisations. Citizens and businesses should therefore have the possibility to send and receive documents to and from organisations in the (semi-) public

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<sup>66</sup> [www.forumstandaardisatie.nl](http://www.forumstandaardisatie.nl)

sector using the ODF format (ISO 26300). According to the action plan all the ministries and subsidiary government bodies should have been able to receive documents in the ODF open standard by January 2009 at the latest.<sup>67</sup>

In the quantitative research the possibility of a vendor using the ODTODT (ODF) format for his bid was considered. It was found that in almost half (45%) of the cases (n=80) the use of ODF was actually possible. In the other 46 % it was not possible; however this was mainly caused because the contracting authorities demanded the use of the PDF format. Only in one case both PDF and ODF were not possible because a vendor was obliged to use a Microsoft Word and Excel format suitable for Windows XP.

In the 7 remaining cases (9 %) a digital bid was not requested by the tendering organisation.

Possibility of using ODF	Frequency	Percent
Yes	36	45
No	37	46.2
n/a	7	8.8

*Table 2: Frequency of possibilities to deliver the bid in ODF*

These results suggest at first sight that this particular part of the Dutch policy is in fact supported by the contracting authorities.

### ***Policy 3: Creating a level playing field.***

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<sup>67</sup> Actionplan Netherlands Open in Connection, p.9 [http://www.whitehouse.gov/files/documents/ostp/opengov\\_inbox/nl-in-open-connection.pdf](http://www.whitehouse.gov/files/documents/ostp/opengov_inbox/nl-in-open-connection.pdf)

To guarantee that providers of open source software will get the opportunity to make a competitive offer there ought to be a 'level playing field' for the open source software providers and the closed source software suppliers.

In the quantitative research the tender documents were examined for a preference for closed source software and in particular a preference for a named closed source product or vendor. The mere use of a trademark or product name in public procurement (which is actually a widespread practice <sup>68</sup>) was not, by itself, considered sufficient to demonstrate such a preference. In lots of cases trademarks and product names are used to describe both the current architecture, as well as the software the new solution has to integrate with.<sup>69</sup> For the purpose of this study such a use of trademarks and product names was not believed to establish a clear preference for a product or vendor, although one could argue that it becomes a discriminating preference the moment compatibility is required with previously purchased proprietary software, especially if the technical specifications

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<sup>68</sup> See e.g. OpenForum Europe, 2011. "OFE Procurement Monitoring Report: EU Member States practice of referring to specific trademarks when procuring for Computer Software packages and Information Systems between the months of February and April 2011", where 147 out of 441 tender notices mention trademarks in procurement documents . <http://www.openforumeurope.org/>

<sup>69</sup> According to Gosh 2010, this might not be a legitimate functional requirement according to article 23 (8) of the Directive 2004/18/EC since software can usually be described in terms of standards and functionality.

needed for that compatibility are not publicly available and freely usable.<sup>70</sup>

For the purposes of this study actual discriminatory use of trademarks, patents, types, and legal and technical conditions in relation to the vendor or product which was the subject of the procurement needed to be present in order to establish a preference for closed source vendors or products. In 29 cases (36 %) a clear preference for a named closed source product or a closed source vendor was found. Accordingly, other vendors than the preferred one did not have a fair chance to win a bid in these 29 cases.

<b>Preference for closed source vendor or product</b>	<b>Frequency</b>	<b>Percent</b>
Yes	29	36.3
No	51	63.7

*Table 3: Preference for closed source vendor or product*

In two of these 29 cases the tendering organisations specifically mentioned that they had a preference for a named closed source product and vendor.

Finally some of the other criteria that could prevent vendors, and in particular FLOSS vendors, from making a bid and having a fair chance of winning were considered. In 9 other cases indirect

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<sup>70</sup> In decision T-345/03 of 12/03/2008 the Court of first instance of the European Community considers that the Commission infringed the principle of equal treatment between tenderers by failing to make available to all the prospective tenderers from the beginning of the tendering procedure the documentation relating to the technical architecture and source code and that that infringement could thus have affected the award of the contested contract. <http://curia.europa.eu/>

restrictions were found that made it very difficult or impossible for vendors to offer a FLOSS product.

<b>Restrictions preventing fair competition</b>	<b>Frequency</b>	<b>Percent</b>
Yes	38	47.5
No	42	52.5

*Table 4: Frequencies of restrictions for Open source software vendors*

This shows that despite the Dutch policy and despite the European procurement rules in almost half of the sampled tenders there still is a preference for closed source vendors or products. This preference inevitably results in vendors of open source products not receiving a fair chance to win the bid. From these results one can also draw the conclusion that this particular part of the Dutch policy is resisted, regardless of the fact that also European procurement rules prescribe a fair chance for vendors.

## **Qualitative Results**

When asked for the drivers and barriers all the respondents mentioned at least one or more of the following four reasons why they resisted or followed (a part of) the policy:

1. Technical reasons
2. Legal reasons
3. Financial/economical reasons
4. Knowledge/experience reasons

### **Comply or Explain policy**

With regards to the Comply or Explain policy the respondents did not feel a negative or positive influence of any kind related to technical, legal or experience reasons. All the respondents seem to be positive about open standards. Some of the respondents did, however, mention that the board of their organisation adopted their own version of the government policy on open standards, which could indicate that there is an additional positive influence. Some of the respondents argued that asking for open standards would most certainly cause vendors to demand a higher price. That idea alone was enough for them to resist the policy. Not all the policy takers resisted or supported the policy deliberately. A rather large proportion of them were simply not aware of the existence of the policy, which could indicate that the government did not communicate enough about the strategic IT plan in general or specifically about the Comply or explain policy. This is also an explanation for the quantitative results that were found.

### **The use of ODF**

Comparing the outcomes of the quantitative research into the possibility to use ODF with the given answers by the respondents gives the following result: The found compliance is not the result of the policy. Only two respondents indicated that they are aware of the existence of the policy. The others said that they have not heard of any policy regarding the use of ODF and that in case no particular format is demanded they expect vendors to use Microsoft formats. When asked about any negative or positive factors the respondents mentioned that their organisations were already *standardised* on the proprietary .doc format. That should, however, not hinder the use of ODF. The government did offer organisations a physical solution in the form of a free USB stick with an ODF converter on it. Within regards to reasons of knowledge and experience some negative influence came from the

fact that Microsoft promoted OOXML which made some organisations reluctant in using ODF. As a “countermeasure” the Dutch government supported the ODF-policy with a small communication campaign. In this campaign they called the use of ODF a “right” for citizens in the communication with government organisations, although that right is not based on a specific rule of law, and citizens cannot legally force government organisations to accept their ODF documents. There has not been a negative legal influence. With regards to the financial/economical reasons to follow or resist the policy there are no financial incentives in place. The implementation of the policy however also did not have a significant negative impact on the finances of the organisation.

### **Creating a level playing field**

When asked about the *Creating a level playing field* policy a strong negative influence comes from the fact that organisations are locked in to a technical solution and cannot freely choose to adopt a new technical solution. The respondents feel that the government did not offer a solution in their strategic IT plan to counterbalance this negative influence. Some respondents mention a negative influence with regard to knowledge and experience in the form of misinformation about open source software, most commonly known as fear, uncertainty and doubt (FUD). According to some respondents this is primarily caused by negative experiences in municipalities. Although at first the government tried to do its best to communicate about the positive results of vendor independence through the use of open source software, after some months the focus seemed to shift to other parts of the strategic policy, such as the use of open standards. This may have caused the fact that the positive experiences did not reach the media as much as their negative counterparts. A

second negative influence with regard to knowledge and experience is the fact that users within organisations want to work with an IT product they are already familiar with. This subjective compatibility plays a strong role within the decision-making process of most government buyers. Another negative influence felt by the respondents is caused by the so-called switching costs that are considered higher when switching to an open source solution. When it comes to legal reasons some respondents feel a negative influence caused by intellectual property law and running contracts, both protecting monopolists, which makes it in some cases difficult for the respondents to really have a free choice. Despite the fact that according to European procurement law one is not allowed to give preference to a certain vendor, the results from both the quantitative as well as the qualitative research show that the positive influence from this legal driver seems to be heavily outweighed by the negative influence caused by the other reasons.

# Interpretative Framework

Based on the research results a theoretical and interpretative framework is constructed that can help policy makers to evaluate (ex post) and forecast (ex ante) IT related policy outcomes.

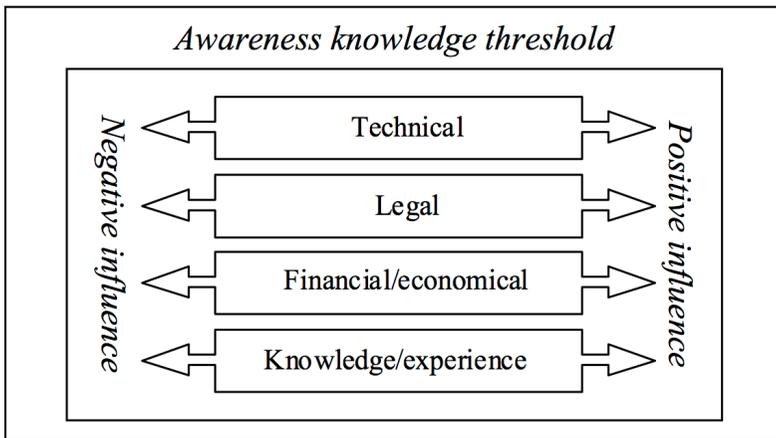


Figure 1: Interpretative framework for strategic IT policies.

## Awareness Knowledge

The necessary first step for all strategic policies is that a policy taker needs to be exposed to the policy’s existence. In order to be able to support or resist it the policy taker needs to become aware of the policy and the problem the policy is trying to solve. This is called ‘awareness knowledge’ (Rogers, 2003). The research results clearly show that the awareness knowledge threshold is the most important barrier a policymaker has to address. In at least two cases the observed policy outcomes are

not the direct result of the policy performance. This means that the policy maker should think beforehand about possible ways of communicating about the policy to the intended policy taker. Does the policy taker even know that there is a problem and that he or she has to play a certain role in order to solve the problem?

Only after this so-called ‘knowledge phase’ will the policy taker enter the ‘persuasion stage’ where a favourable or unfavourable attitude towards the policy will be developed. The policy taker will then try to find out what the advantages and disadvantages of the policy are and in particular what the short-term relative advantage is for his organisation.

## **The Persuasion Stage**

In the persuasion stage the proposed framework describes four dimensions: technical, legal, financial/economical and knowledge/experience. Within each dimensions there can be negative and positive influences that should be taken into account by the policy maker. When there is a strong negative influence within a dimension the policy maker should counterbalance that influence by using a positive instrument within that same dimension. These instruments that the policymaker can use are legal rules, financial compensation/incentives, communication and marketing, and physical solutions (Fenger & Klok, 2008).

### **Technical dimension:**

Within the technical dimension the negative influence is coming from the “objective compatibility” established by current vendors. Vendor lock-in is the situation in which customers are dependent on a single manufacturer or supplier for a product or service and cannot move to another vendor without substantial costs and/or inconvenience. It is that inconvenience that is

strongly related to the technical dimension. In the case of IT one must take into account that in most cases there is no greenfield situation. Often an organisation has some sort of legacy where an existing architecture and system are the departure points for future actions. Certain policy choices can be obstructed by technical architecture or technical possibilities (Mifsud Bonnici, 2008). For example new application software must be capable of being installed on the existing platform (e.g. Windows) and must be compatible with the existing applications. These applications usually do not support multi platforms. This headlock also applies the other way around because a new platform must also be able to support the platform-dependent applications already in use. There are also situations in which several applications interweave with each other in a way that makes it impossible to remove an application. With closed source software and closed standards it is difficult to discover how the interaction takes place, but even more difficult to discover how to break free from that 'physical' boundary. A trapped mouse can proclaim that he will stay away from the cheese next time, however that policy will not help him to get out of the mousetrap. To counterbalance the influence of the objective compatibility a strategic IT policy should contain a solution to this barrier. One could think of prescribing certain behaviour by means of technology, or offering an alternative and free product. Both are examples of physical solutions.

**Legal dimension:**

As soon as a software product (or a standard) has acquired a certain monopoly the supplier of the product is able to exercise additional power on the basis of intellectual property law. The supplier can legally oblige the software user to participate in or to abstain from certain actions. Running contracts could make it impossible to choose a new product or to get the co-operation of

the current vendor in creating compatibility with open source software. When the compatibility of products is prevented by exercising the rights of intellectual property or contract law this could also result in an obstruction of competition (van Loon, 2008). This negative legal influence can be counterbalanced by a positive legal influence such as National law, European directives or other forms of legal regulation that can proscribe a certain action. The results from the research do show however that the expected positive influence from this legal driver can be outweighed by the negative influence caused in other dimensions.

**Financial/economical dimension:**

Not all policy takers will be very supportive of a policy that will cost the organisation money. This specifically applies to government buyers who see it as their primary goal to get good value for money (Arrowsmith & Kunzlik, 2009). Because of the technical dependence on the current software the costs of a migration to a new innovation from a different vendor will in most cases be higher than a migration to a product of the current supplier. Moreover there are possible migration costs resulting from the fact that users need to learn to use a new product. These migration costs can be the reason to resist a policy. This is the financial/economical dependence. This negative influence needs to be counterbalanced by the policy maker using financial incentives, such as government grants.

**Knowledge/experience dimension:**

In this dimension the perceived subjective compatibility and the communication about the use of the policy can have both a negative and positive influence on the decision to resist or support the policy. The perceived subjective compatibility is the compatibility of the policy or the policy outcomes with the

personal experience the policy taker has with a certain technology. The policy taker is also being influenced by the opinions and experiences of his social network. Just like the people in his social network the policy taker wants to work with technology he is already familiar with or with technology that has benefits due to network effects. Any policy that wants to change or challenge that subjective compatibility should address this issue and take the relevant constraints into account.

Policy makers often use communication as a policy instrument (Fenger & Klok, 2008). Within this particular dimension the use of communication can establish the so-called ‘how-to knowledge’, where a policy taker needs to understand how to use a policy and the ‘principles-knowledge’, where a policy taker gets an understanding of the principles behind the policy. This policy instrument usually focuses on the use of a policy and results in the production and communication of guidelines or good practices. This particular form of communication will however not establish awareness knowledge. If the policy taker is not aware of the problem and of the policy that tries to solve that problem, he will not be receptive or looking for the *how-to knowledge* or the *principles-knowledge* (Rogers, 2003).

## Conclusion

The four described dimensions together establish the relative advantage that will influence the degree of willingness to adopt and use a new strategic IT policy. Together with the awareness knowledge threshold they can function as an interpretative framework helping policy makers understand better why an IT-related policy is supported or resisted. Based on the proposed

framework a reasonable hypothesis for further research would be that the desired performance of a strategic IT policy is only possible if the policy maker addresses the awareness knowledge threshold and takes all relevant constraints within the four dimensions into account. The research results show that in the case of the Dutch action plan this has been partially disregarded by the policy maker. The policy maker should think beforehand about possible ways of communicating about the strategic policy to the intended policy taker, and the policy itself should at least contain, announce, or support the use of one or more policy instruments within the four dimensions. When there is an expected negative influence within a dimension the policy maker has to counterbalance that influence by using a positive instrument, preferably within that same dimension. The research results of the *creating a level playing field policy* clearly indicate that for instance the mere use of the legal instrument ( e.g. the European procurement guidelines) is not enough to change behaviour and to counterbalance negative influences coming from within the technical dimension and the experience/knowledge dimension. Although it might prove to be possible to use legislative measures or financial investments as a positive instrument within one dimension to counterbalance a negative influence in another dimension, the instrument needs to be strong enough to convince the policy taker that there is a relative advantage big enough to disregard the negative signals coming from the other dimensions.

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