

The Economics of e-Government: A bird's eye view

by

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1. Introduction

As in the case of the private sector, it is generally assumed that more information and more transparency are likely to lead to higher efficiency and better quality in the public sector. Similarly to the private sector, higher efficiency in the public sector can be defined in terms of *quantity*: more or faster output for a given input. There may be problems in defining and measuring output but in general these are problems, but these also exist with respect to service activities delivered by the private sector. By contrast to notions of quantity, the notion of *quality* in the public sector is more complex and subject to internal trade-offs. Quality in the public sector consists, it might be argued, of both the aspect of equal *access* (equality), with in the extreme case publicly guaranteed universal access provision, and on the other hand the variety of citizen's needs and wants, *choice* (diversity). In many public service activities there is a trade-off between both aspects of quality. For example, universal access often implies standard provision; by contrast choice often implies differentiated service delivery.

The specific policy problem public sector services have been confronted with is the lack of an external, disciplining market pressure at the output side, whereby competition between suppliers would bring, like in the private sector, depending on the degree of competition, both efficiency in the production process and variety in output reflecting changing consumer's preferences. Today, the "governance" of public sector services consists mainly of input policy measures in the form of more, or less, public spending (budget). Results have been generally poor: increased public spending has resulted in little improvements in the efficiency and/or quality of public service delivery; reduced public spending by contrast has often led to a reduction in both access and quality of public service provision. Internal pressures for performance often consisted of bureaucratic forces optimizing the internal interests, while external pressures for quality and cost-effectiveness were lacking. Privatization of public services has increased external performance incentives but has only solved in a few cases the intrinsic trade-offs between access and choice that are characteristic of most public service delivery sectors.

The question addressed in this paper is to what extent the introduction of information and communication technologies (ICT) in the public sector can solve some of these efficiency and quality problems. Much hope is being put on the potential opportunities for more citizen-consumer and business oriented, interactive e-government. This form of government would be clever - for example it doesn't ask several times for the same information and can connect information in useful ways - speedy and readily accessible on a 24hour basis, flexible and capable of adapting itself to the specific needs and problems of the individual citizen-consumer, firm or other organization. the expectations surrounding the efficiency and quality gains linked to e-government are high and in many ways reminiscent of some of the over-optimistic expectations which surrounded the introduction of e-business. Nevertheless, the public sector represents in many ways the ideal sector for potentially substantial efficiency and quality leaps. After all most public sectors are heavily information- and communication-based. Dissatisfaction with their performance has been closely associated with bureaucracy - the misuse of information for internal organizational power purposes, raising transaction costs - and with what

could be referred to as *autistic* behavioral features vis-à-vis its clients, expressing itself in a persistent lack of responsiveness.

Policies oriented towards e-government might hence achieve more immediate direct results than policies oriented towards e-business, which ultimately depend on their cost effectiveness in a competitive market environment. Particularly within the context of countries with large public sectors, such as most of the European countries, it is today not so much the tradable market sector which is from the ICT policy perspective important for long term competitiveness – with the further opening up of world markets this is if anything a rather autonomous, endogenous process – but the quality and efficiency of the public sector both nationally and locally, which will determine a country's long term growth and the quality of its national welfare.

We start with a short overview of what were and still are “public goods” and of the problems involved in their public production and provision. In a second section we raise the question whether there is an alternative in achieving higher efficiency in public services to straightforward privatization and/or increased public accountability. This leads us into a brief discussion of information economics and organizational learning. In the third section we then enter into the discussion of how new digital technologies can assist in achieving an alternative route, providing new opportunities for a more efficient and user-friendly public sector. We conclude with a couple of comments on the issue of motivation. A successful implementation of ICT in the public sector will paradoxically and contrary to its introduction and use in the private sector, depend less on the transparency and reduction in the information asymmetry between public service producers and citizens, than on the way in which the new technologies become integrated in the notion of public services, both on the side of civil servants-producers and on the side of citizen-consumers.

2. Public goods and government failure

2.1. The disciplining force of markets

Today it is generally accepted that the dynamic function of markets in enhancing efficiency and innovation is the main factor behind the superior performance of market-based economies as compared to other economies. The market system translates consumer preferences into market demand in a transparent, immediate, efficient way. The type and amount of goods and services being produced depends on the (marginal) utility they offer to consumers, as compared to the (marginal) utility that consumers derive from other goods and services that they could buy for the same amount of money. On the supply side, there is the presumption that when a product is produced inefficiently and therefore too costly, competitors that are more efficient can and will (depending on the ease of entry) offer the product for lower prices, and the inefficient company will either hurry to produce more efficient, or ultimately get out of business. In a similar way the quality of goods and services is likely to be safeguarded by the market-mechanism. If a business fails to maintain and increase the quality of its products and services,

competitors with a better price-quality ratio will force the business to keep up and improve the quality of its products; otherwise it will lose customers and go bankrupt.

2.2. *Public goods*

However, there obviously are a number of goods and services that are not produced by the private sector but by the public sector. These are *public goods* in varying degrees¹. At one end, there are the “pure” public goods, which if left to the market will be under-produced or not produced at all, though there is a clear demand for it. Private investors will not be forthcoming because there is no way, or only an insufficient way in which they will be able to appropriate the returns on the investment in the provision of such goods and services – public goods are an answer to different forms of ‘market failure’. At the other end, there are goods that are public not so much by nature but by political decision. These products could in principle be produced by the private sector (in a properly regulated market-context) but in practice often are not. These are goods and services that are more or less private (in the sense of excludable, appropriable) in nature, but their provision and fair distribution is viewed as essential to public interest. As the words indicate “public utilities” fit this last category of goods probably best, but there are plenty of other examples such as higher education, health care, telephone network services, railroads which fall also under this category.

An important policy-question of the last two decades has been to what extent some of these latter public goods can be better supplied by private providers, and if so, under what conditions, and moreover, which role information and communication technology (ICT) could play in this. The public provision of such (semi-)public goods shows important flaws. Similarly to the concept of market failure there is indeed also the notion of “public sector failure”. Public investors can have a tendency to both under- and over-production and -investment in the provision of particular goods and services, subject as they are to specific pressure and lobby groups. The public sector is perceived as being inefficient, non-responsive, bureaucratic, and user-unfriendly, and though this perception is not always fair, there is a clear empirical basis supporting it. Because there is usually no real alternative (except for a private monopoly) and there are no real prices that can signal satisfaction of and shifts in the demand-side, there is little incentive to improve on the service delivery, innovate products and processes. In the case of innovation, the incentive to do so usually comes filtered through the perceptions of policy-makers, and citizen-consumers will benefit less from it than they could and should.

2.3. *Prices as compressed information*

Given the success of the market mechanism to match supply and demand, and given the impact of ICT in the private sector, the wish to introduce market elements and apply more ICT in the public sector is understandable. However, it is important to understand

¹ The notion of public goods has a long tradition in economics going back to Marshall, Pigou and Wicksell. There is no need to refer here to the very large number of economists who have contributed to the topic of public goods and form now the literature list of any standard textbook on public sector economics. The same goes for other well-known economic concepts used in this paper, such as ‘market failure’.

why the market mechanism is successful, under which conditions and in which way. In a market situation, prices can be viewed as providing *compressed information*. In markets with a sufficient level of competition, prices are not only reflecting relative supply and demand, they will also signal interesting profit opportunities, best practice cost, quality and delivery performance, etc. A careful 'reading' of information from prices is hence important. There are two necessary components for the 'disciplining' function of markets to operate well: well compressed prices and a high degree of competition. The public sector has neither.

2.4. Government failure

Obviously there is a cost price for producing public goods and services. However, the resources for this production come from tax money that is collected largely independently from what it is used for. The allocation of these resources is a matter of policy-decisions and the price that consumers of public goods and services pay, is often only marginally related to the actual cost price. Competition on the other hand is practically by definition eliminated, not just because of straightforward technical reasons such as scale of production or universal access, rendering a "state monopoly" structure as the most efficient delivery provision, but often also as an explicit choice.

Government failure hence occurs both at the supply-side *and* the demand-side of public goods of services. On the demand side it will be hard to determine what the real demand for these products ultimately is. It will be generally determined by estimations of the needs for public goods and services, in combination with certain political values about the access and distribution of these. Unfortunately there is often a long, curvy way from socio-economic reality to the policy-making rooms, and an equally long and hurdled way from policy-making to actual policy implementation. On the supply side, it will be determined by the allocation of budgets. Since there is, apart from the intra-public-sector competition for more budget which is generally more related to internal politics than to a perceived increase in demand, no competition nor a price mechanism as disciplining characteristic, there will be little external incentive to lower costs, increase efficiency and improve quality.

2.5. Increasing incentives

There are a number of ways to deal with these aspects of public failure. One possibility is to increase *external* incentives/pressures to improve performance, by (semi-)privatizing certain public services, forcing them to operate in a market-like way, as has been done in the telecommunications sector. This is a subject in itself on which we will not elaborate here, except with respect to the privatization possibilities within the framework of the unbundling of public service delivery activities. Complete privatization often requires the setting up of a sophisticated regulatory framework so as to avoid private monopolies, enable "fair" competition between the incumbent and new entrants, often regulate prices and access provision and secure certain national strategic guarantees. The difficulties in liberalizing and privatizing public utilities in most European countries illustrate well the

fact that a simple transfer from public to private provision is generally speaking not a sufficient guarantee for increasing on a long term sustainable basis efficiency.

Another track is to install stronger *internal* disciplinary forces to keep down costs and keep up quality. An example of this is 'new public management' (NPM). NPM consists of the use of private sector management principles of planning, measurement and evaluation, the empowerment of midlevel management and the orientation of organizations to the needs of customers, not of bureaucratic structures that often develop an independent logic maximizing their own survival and growth. NPM propagators have continuously advocated the implementation of specific performance Indicators (PIs) used in private organizations to create a performance-based culture and matching compensatory strategies in these systems. These indicators when applied in the public sector can function as milestones on the way to better efficiency and effectiveness of public agencies. NPM alters the way in which public servants are held accountable to the public and customers. Citizens' awareness of the performance of public services is said to increase the political pressure placed on elected and appointed public servants, thereby enhancing both managerial and allocative efficiency in the public sector. This process of 'public accountability' to stakeholders/citizens is somewhat comparable to the role adopted by financial reporting in the private/corporate sector. As in the private sector, increasing external-related outcomes can have a profound impact on internal control mechanisms, as managers and public servants become more sensitive to their duties which is expected to lead to more conscious commitment to serve their public customers. However, the results of NPM are mixed, the increase in control does not necessarily lead to an increase in speed and quality.

Is there a 'third' way to increase incentives to be efficient and innovative, without going either the way of privatization (associated with loss in equity and different forms of market failure) or the way of stricter internal monitoring and control (associated with increased transaction costs and decreased motivation)?

3. Information and learning

In achieving a third way in achieving public sector efficiency will try to obtain a combination of some of the advantages of external incentives and internal disciplinary forces. As we argue below in a third section, both are today closely linked to the possibilities offered by information and communication technologies in achieving greater transparency on the supply side in the production, organization and delivery of public services and on the demand side in bringing to the forefront the changing, sometimes hidden demand aspects, while at the same time raising the quality of public service delivery. Before addressing this issue, we discuss in some more detail two features of such a third way, which in our view appear essential: information and learning.

3.1. Information economics

In the field of economics, perhaps the most important break with the past – one that still leaves open many new areas for future work – lies in the *economics of information*. It is now generally recognized that information is imperfect, obtaining information can be costly, there are important asymmetries of information, and the extent of information asymmetries affects and is affected by the actions of individuals, firms, and institutions. This recognition deeply affects the conventional insights in economic science, recasting the light on central economic issues such as the fundamental welfare theorem and some of the basic characterizations of a market economy. By analyzing the role of information in the economy, explanations of economic and social phenomena can be provided that otherwise are hard to understand.

The fundamental breakthrough in the economics of information going back to the early 60's (Arrow, 1962, 1979) was the recognition that information was fundamentally different from other “commodities”. It possesses many of the characteristics of a public good, and may therefore easily be under-produced in markets. Information issues are intertwined with the production and sale of ‘normal’ (traditional) commodities. In the economy-old-style, prices convey all the relevant information, between consumers and producers, about the scarcity value of resources. There is however a variety of other ways in which economically relevant information is conveyed, and prices convey information other than that about scarcity. Producers and consumers realize that their actions – both individually and “collectively”, e.g. through aggregate movements in prices and quantities – convey information, and this affects actions, so that the simple theory of consumer and producer behavior does not describe the behavior of consumers or producers in several central aspects.

It was long assumed in mainstream economics that search costs (for information) were not very important. One of the reasons to think this was the assumption that not everyone had to be well-informed for markets to work well – that is, as long as some, or enough individuals were well informed, that would “arbitrage” the market. Once it became recognized that what people knew was endogenous, it also became clear that what they did *not* know was also endogenous. The market and market participants might actually create noise – forcing other market parties to spend valuable resources at least partially to undo this artificially created noise.

Information has a central role in all economic processes, and information economics represents a major, growing area of study. Recent Nobel laureates in economics Akerlof, Spence and Stiglitz have set out a new path towards understanding economic phenomena, a path that has by far not reached its full implications and applications for policy yet. Taking information as the unit of analysis in economics has resulted in many new insights about market dynamics. For (semi-)public organizations, prices usually are not containing the right information to act upon, since prices are a result of regulation and are only partially or not reflecting scarcity, utility, quality, and efficiency. Other forms of information are needed to find out more about performance and the need for and direction of innovation and change. To what extent can information economics offer insights to

this? Which information markets can be found, how are they functioning, where are they lacking and why? Why is there no supply for an obvious demand? If prices were to fulfill their function because they are a form of coded information about supply/demand and costs/benefits, could information in another form have a disciplining, quality improving effect as well? Under which conditions? And, most important for this paper, what is the influence of information- and communication technology here?

3.2. Organizational learning

It is clear that information in itself will not change the world, and transparency is a necessary but not sufficient condition for improved performance of public sector organizations. Information per se is not very interesting; it is what an organization does with the information that counts. In the past, organizations were often viewed as rational agents who simply needed more and better information to make more and better decisions. The relation of information to action was presumed to be linear and straightforward. Many empirical studies have showed that this is a naïve assumption. The incorporation of information into the knowledge base of an organization is selective, sporadic and temporal, and decision-making takes place in a context in which actual information is just one of the factors under consideration. Apart from obvious factors such as organizational internal and external politics, there is a more fundamental problem: organizations filter, select and interpret information within their existing conceptual framework, about the nature of the external environment and about their function in it. This means organizations miss out on a lot of information without even realizing it. People act not upon an actual situation, but upon their perception of it. For organizations this is true too. In an organization, the perception of a situation is the result of negotiation between the different perceptions of the constituent actors in the organization, that all have different perspectives and interests.

Argyris (1982) argues that organizations have great difficulty in learning and seldom question the underlying basis of their own problems. Organizations, especially in the public sector, are often depicted as lacking in innovation and intrinsically resistant to change, stressing conformity instead of creativity, defending the status quo instead of striving for change and improvement. Organizational learning can be defined as a process of detecting and correcting mismatches of outcomes. Mismatches between what is needed and what is provided, in terms of quality, quantity, efficiency and timing. The organizational learning process as depicted by Argyris consists of single loop and double loop learning. Single loop learning is the process of adapting existing organizational processes to get better outcomes (more, better, faster, less costly). Double loop learning is the process of looking at the level beneath the outcome failures, questioning the assumptions and traditions in an organization, all the way down to its very reason for existence. Organizations are institutions, in the sense that they structure the behavior of the members of the organizations; they form the (dis)incentive system determining outcomes, and it is the structure of the organization that determines whether the incentive system reflects the needs and demands of the external environment, which is what the organization was created for, and the needs and demands of the internal environment,

which is essential in providing outcomes for the external environment. Organizational learning at both levels requires exchange of information between the organization and both its internal and external environments. The organization must have the capacity to sense, monitor and scan significant aspects of its internal and external environments. It must be able to relate this information to the organizations operating norms and values that guide it and aims it tries to achieve, and detect significant deviances from these. It has to recognize and initiate appropriate action to correct deficiencies.

Not only organizations can learn, also their clients/customers can. In order to make organizations better equipped to track changes in demand, the demand itself has to be strengthened. Empowerment of citizen/consumers can help public sector organizations to shape themselves into a better fit. Informing and educating the consumer/citizen is an important part of achieving real transparency. Tons of information about the performance of the public sector can still be very intransparent, when it is not accompanied by insight and understanding.

In what way can increased information about and transparency of both the public sector organizations and their 'customers' the citizens help to improve the performance of the public sector? To what extent does this differ between different types of public organizations, and why? Which types of indicators exist for the public sector? These types of questions follow from a perspective that takes information and learning as its main focus.

4. ICT and public sector efficiency

If availability of information and organizational responsiveness and learning are key elements of innovation in the public sector, then clearly information and communication technology (ICT) clearly can be expected to play a major role in strengthening these elements in the public sector. At first glance, ICT provides a number of unique opportunities to solve both the need for such external and internal incentive pressures without going all the way in the direction of complete privatization with its need for sophisticated, yet economically and politically highly sensitive regulatory control, or strict public accounting with its often excessive growth in transaction costs.

4.1. ICT and demand articulation

First and foremost, in so far as the new, digital technologies can be considered to represent a set of interactive network technologies allowing for a complete reversal of the supply chain, they might enlarge substantially the "choice" vector of service delivery without necessarily undermining the universal access or service provision. As in the private manufacturing sector, information and communication technologies can substantially reduce in public service delivery the implicit trade-off between standardization and product differentiation. By shifting the focus away from the supply

side and the delivery of well-defined, standardized goods and services, towards the demand side and the delivery of more client, citizen, patient, student-specific requested goods and services, public services would actually follow a development path set in motion in the private sector in the 60's and 70's bringing to the forefront consumers' "love of variety". At the same time it would also put more emphasis on the "at your service" delivery function of public services rather than the typical "we know best" impression implicit in the provision of many public services. Such a shift from supply to demand raises of course many questions about the nature of the actual content of the service delivery and the recognition that knowledge about the content does not reside with the professional supply side only. Rather that it is the matching between demand and supply, which ultimately is what service delivery is all about. Central emerges thus the skill, learning and knowledge capability of the citizen, client, patient, student, or more generally user of the public service. As a consequence, the inequality in service provision becomes as if it were ubiquitous and universal service provision will generally fail to counter such emerging inequalities, if anything it will exacerbate further segmented class provision.

In short, the application of ICT can bring about many of the features of more demand led public services without having to transfer such services completely to the private sector. In doing so, they enable still the public sector to keep full responsibility for the provision of such services: long term sustainability can be guaranteed, investment in particular services, considered to be politically desirable, maintained but the transparency brought about by ICT will make clear the costs in terms of an eventual lack of demand of particular services. At the same time consumers can express through their demand the need for shifts in the provision of particular services.

4.2. ICT and transaction costs

Second, new digital technologies are likely to make transaction costs much more transparent also in the public sector. The bringing to the forefront of transaction costs in the public sector, might even be much more significant than what is generally being assumed in the private sector. Whereas in the latter case it might lead to de- and re-intermediation as in the case of B2B, in the case of e.g. government services, it is likely to lead on the one hand to a similar de- and re-intermediation (G2G) trend, bringing about more direct efficiency in the public sector (eliminating various bureaucratic intermediaries, pulling together information sources, changing the organization structure of government departments, services, etc.) and on the other hand to a further unbundling, enabling the public sector to outsource to the private sector particular activities which can be more efficiently delivered with a wider choice, bringing about a more core-business focused, specialized and more qualified public sector. The realization of these efficiency gains and technological promises raises, however, many organizational management and learning issues. If the many organizational failures with respect to ICT and e-business in the private sector are anything to go about, it should come as no surprise that the introduction of ICT in the public sector remains in terms of productivity gains something of a black box with lots of very different e-government experiences and practical cases. But the issue cannot be restricted to just organizational learning and management issues.

It is in this sense that ICT provide a broader and more promising avenue for efficiency improvements in the public sector than the new public management methods described above which are likely to increase substantially transaction costs, based as they are on a more or less unique trend of increased public accountability. We come back to this issue in more detail below. The essence of our argument is here that ICT are likely to fit better the extrinsic and intrinsic motivation of public service workers and employees.

4.3. ICT and access

Third, and focusing more on the particular role of ICT on the transparency of information on public services towards users, whether they be citizens, patients, clients or students, one would expect that ICT will also have increased the transparency of information on the access and quality of public services. However, information about the access and quality of the provision of public goods and services remains highly fragmented: in some countries such information appears widely available across a large set of public sectors; in other countries information remains limited to some specific public sectors. Causes seem to lay in the institutional structures, the specific local governance structure with the sometimes, active involvement of users, incentive-systems and interests. Thus whereas in The Netherlands, in education, both secondary and higher, parents and students are being relatively well informed through public or private information channels about the content and quality of the studies provided across the country, can visit websites, obtain on line most information about courses, open days, performance rankings, etc., in public health services such information is more or less completely lacking. From this perspective it remains puzzling, why in contrast to Dutch students and their parents, Dutch patients do not seem to be interested in the quality of particular hospitals, doctors or specialists, internal accident rates, outbreaks of MRSA, etc. Why do public health sector organizations not seem to compete with each other on quality? The easy answer is that there is little external focus in Dutch public health sector organizations, and the reason for this is that incentive systems in the sector appear largely internally oriented. To change this touches directly upon the national institutional set-up of a particular public sector and in particular the role of local governance. In short, the transparency offered on the demand side by ICT is an essential source for “creative” institutional adaptation and learning: more appropriate concepts in this context than the traditional Schumpeterian notion of creative destruction.

5. Intrinsic incentives: motivation

As in any other case of the application of ICT, real, long term sustainable efficiency improvements in the public sector will ultimately depend on motivation. Why would a public sector organization having introduced ICT, search for the best application possibilities; de-intermediate or outsource particular activities with the internal loss of jobs, influence and power; obtain outside information, which it could itself organize internally; learn from it, and change itself for the better? The job-conditions of public servants are in general protected and secure, and the state cannot really go bankrupt.

Departments will rather compete for the most up to date ICT equipment; have it implemented by external consultants fitting within the existing organizational structure and fight for enlarged duties and tasks.

5.1. *Intrinsic motivation*

There are different incentive-systems in the public sector. Traditionally, public servants did their work as good as possible out of a sense of duty and pride – out of an *intrinsic* source of motivation. Clearly these determinants of performance have been eroded in several ways, the increased reliance on extrinsic motivation regimes, through e.g. privatization or performance monitoring systems as discussed above have ultimately contributed to it, eroding in many cases further intrinsic motivation. Particularly in cases when there are substantial information asymmetries to assess the quality of the service delivery between the producers of public service delivery, e.g. doctors and nurses in a hospital or nursery home, and the patient-consumer, there might be substantial so-called “contractual failures” so that private, for profit service delivery is more likely to cut corners. Corners which can be detrimental to the quality of the service but which are hard to monitor. Hence in many of the most well-known service delivery areas, where complete contracts specifying the duties of each party under all possible contingencies are difficult (health, care, education), it has been generally accepted that nonprofit service delivery might well lead to higher quality for services than for-profit service delivery (see for example Glaeser and Shleifer, 2001). Underlying the quality of the public, nonprofit service delivery will be all sorts of intrinsic motivation factors: altruistic motives as in education, whereby professors are likely to have utility functions that depend more on the satisfaction gained from good reputation, or in health where doctors and nurses are likely to do their best because of a strong ethical code that is internalized. A doctor or nurse take good care of a patient not principally because they gets money for it, but because that is what doctors and nurses do.

5.2. *Motivation crowding out*

It is in this sense that the long term, sustainable efficiency gains of e-government will ultimately depend on the way further application of ICT improve also the *intrinsic* motivation of public service employees. The various features of ICT discussed above offer not only opportunities for a strengthening of extrinsic motivation e.g. through the possibilities for outsourcing following the unbundling of public sector activities or the increased transparency with respect to performance and costs, but also opportunities for strengthening intrinsic motivation. Professionals like doctors or nurses are taking care of a patient trying to make him or her better not for the money but because that is what doctors and nurses do. Of course in practice money does play a role, but the point is that any failure in performance is seen as unintentional and accidental, and overemphasis on monitoring performance can and often are felt as insulting. *Motivation crowding-out* is a well-known phenomenon that should not be underestimated. Transparency can hence undermine solidarity and turn important cooperation into harmful competition. In addition it can lead to increased possibilities for strategic behavior, and to decreased risk taking and innovation.

6. Conclusions

We would argue that many of the failures associated with the introduction of ICT in public services have to do with a unidirectional pursuit of transaction cost reduction, leading ultimately to motivation crowding out, and even worse efficiency and quality performance. The introduction and use of ICT in public services should in our view focus on the *enabling features* associated with ICT. How to stimulate responsibility and professional pride of for example teachers, police officers, social workers, doctors, or nurses. How to quicker inform the student, the unemployed or the patient how to get them involved in assessing their or her needs and wants, how to mobilize their commitment and communication, and how to increase their choice.

In some areas of public service delivery this has succeeded remarkably well as e.g. in the case of the Dutch inland revenue tax office. Similarly, we would expect that in other cases of best practice ICT application in public services, the main feature which stands out is the way ICT use has strengthened intrinsic motivation in the specific public service sector. Employees are proud and keen on working in that particular sector and see the use of ICT as a factor improving their skills, and the efficiency and quality of their service delivery enhanced. By contrast, in services where the emphasis has been primarily on extrinsic motivation, the result has often been further distancing, motivation crowding out and ultimately growing cynicism of both citizens and civil servants.

Public sector organizations generally are to some degree *autistic*, in that they are oriented more internally than externally, and are governed more by internal guidelines than external signals. The interactive “communication” features allowed for by ICT will undoubtedly strengthen the external incentives pressures, the needs for change in service delivery and/or its quality, and hence make the public sector more sensitive to the needs of its citizens, whether they be consumers, clients or patients. However, in doing so one should not lose out of sight the purpose of public service delivery. As we argued above, many of the transparency, unbundling and de-intermediation features associated with the use of ICT are likely to increase the role of private, for-profit organizations, allowing public sectors to focus on their core activities. These core activities will hence become increasingly closely associated with the *raison d'être* itself of a public sector organization. Ultimately the reason of existence of a public sector organization is not to deal with needs from the market, but to deal with needs that do not make it to the market, or with needs for which there is no market, and with needs for which there should not be a market because these needs are politically defined as ‘rights’. To refer to citizens, students or patients as ‘consumers’ is useful to get more attention for their needs and wants, but it is in the end merely an analogy, which should not be taken to far. Similarly, a public sector organization is not some kind of degenerated form of a market organization, it has an existential logic of its own and it is important not to forget that but on the contrary, to built on it, since it offers strong incentives for innovation and quality, by directly restoring and increasing the motivation of both civil servants and citizens.

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