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Organisational Transformation Through the Internet

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ABSTRACT

In this article we show that organisational structures are changing fundamentally. This change is caused by the growing use of ICT and the scope of services they now cover. Since public administrations face higher demands from citizens and society – higher level of services, lower costs of service production – the ICT and internet are used to redesign, not only the service delivery process, but also the organisational structure of the organisations involved. In this article we introduce some benchmarks that show the growth path in this transformation and the use and scope of ICT, and we present a case study to illustrate changes in depth. We also try to analyse these changes, using classical literature from organisational sociology. Amendments to the work of Joan Woodward and Max Weber are proposed to deliver extra heuristic power to understand recent developments in organisational change.

Until recently the exponentially growing use of internet to deliver services to citizens did not affect the functioning and design of large scale back-offices in public administration. In these back offices traditional ICT (databases, tailor made information systems, etc.) were already introduced starting around 1960 (Nolan 1973; Danziger and Dutton 1982, etc). Internet started as an extra-organisational network, and organisations got 'connected' introducing home-pages, websites and e-mail facilities that were completely disconnected from the back office automation. Only recently we witness large scale integration of internet as front office technology and the classical back office ICT.

In this paper the central question to answer is: 'What kind of (inter-)organisational structure evolves when the extra-organisational internet and classical, intra-organisational ICT converge?'

To answer this question, we present in section 1 the relevant theoretical perspectives: organisational structure, stages of ICT-growth and stages of internet-growth. In section 2 empirical references will be presented: the

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results of two international benchmarks and a case-study give perspective to the benchmarks. In section 3 we will analyse the empirical findings using the theoretical perspectives. In section 4 are the conclusions.

Section 1: Theoretical perspectives

Organisational structures

Organisations can be seen as goal oriented cooperation networks. These goals can be political, ideological, economic or societal. When the goal is permanent, an organisational structure is put in place. We witness different types of structures, depending on the kind of task to be performed, the context in which the task can be performed and the technology used.

The history of western organisational structure starts with traditional relations, acquired through heredity (Weber 1920). With the process of modernisation, the rationalisation of organisational structures started. In Adam Smith's *Wealth of Nations*, we can see an early example of this rationalisation. According to Smith, the economic surplus accrues, using rationalised organisational structure with high levels of division of labour: 'This great increase (. . .), in consequence of the division of labour, (. . .) is owing to three different circumstances; first, to the increase of dexterity in every particular workman; secondly, to the saving of the time which is commonly lost in passing from one species of work to another; and lastly, to the invention of a great number of machines which facilitate and abridge labour, and enable one man to do the work of many'. Already Adam Smith made the connection between organisational structure and technology. Frederick Taylor developed this line of thinking further, introducing the concept of scientific management. In his view organisations needed to be structured in a functional hierarchy, with highly specialised workers performing small tasks. Scientific norms define the design of the workprocess and the structure of the organisation. In Taylor's view workers, management and society at large would gain. Max Weber also created a mechanistic, centralistic view on organisational structures. To him, power, authority, effectiveness and obedience were important norms for organisations. In his ideal type of the rational legal bureaucracy we find hierarchisation, centralisation, formalisation, specialisation, standardisation.

All three writers on organisations follow a more or less identical line of reasoning: Economy and our western, capitalist culture of modernisation dictate the need for efficient organisations. Mechanistic, hierarchical structures perform best to meet this need. Functional hierarchies are part of the larger modernisation and globalisation scheme.

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In later years we find a more empirical approach to organisations, that show us that the formal hierarchical organisational structures are not key to organisational performance: the human relations school (Dickson, Roethlisberger, Mayo), focuses on the informal group processes. In the traditional debate on organisational structure, the level of central control through the structure can become stronger or weaker. First, Joan Woodward studied the relation between organisational structure and technology. She discovered that the structure varied from non-hierarchical through hierarchical and back to non-hierarchical, depending on the amount and intensity with which the organisation uses technology. A simple informal structure with a lot of horizontal communication evolves, when organisations produce customised units (a ship or a house). A strict, vertical, mechanistic bureaucracy evolves when organisations produce 'batches' of a certain product, e.g. 100,000 cars of a specific type, bricks, etc. The organisation uses technology to produce a large number of goods. The third type is the process-technology. In these organisations the use of technology is maximal. The organisation produces goods by physical quantities (litres, volume, like milk, petrol, sugar). Here we find an informal, non-hierarchical organisational structure again, but very different from the first. In this case highly specialised professionals run the factory, all machines are connected (pipes) and they manage the continuous flow of production. The professionals share their professional backgrounds (e.g. chemistry), the machines 'contain' their knowledge and production protocols are a part of the shared, consolidated knowledge infrastructure. Thus, horizontal and informal communication becomes more important again, rather than hierarchical positions and vertical communication. In terms of structure we find a more or less organic structure (informal, horizontal communication) with a high level of central control that is effected by the technology introduced.

Second, Lawrence and Lorsch (1967) find that organisational performance is determined by the ability to cope with the organisational environment. The degree of differentiation into sub-systems is dependent on the environment. Each organisational sub-system adapts to that part of the environment most relevant to the sub-system in question. If the organisational environment is complex, dynamic and highly interdependent, the organisation decentralises its decision making power, introduces boundary spanners and other coordination mechanisms. From a structural point of view this organisation looks more like a professional bureaucracy (informal, organic structure with decentralisation and little central control), where organisations with a non complex, steady and non interdependent environment create structures that look like Mintzbergs' machine bureaucracy.

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Hypothesis

Overseeing the classical literature on organisational structures, two competing hypotheses can be derived seeing internet as technology: (1) The organisational environment becomes even more complex, dynamic and interdependent, forcing organisations to decentralise their decision-making routines and to create more organic, informal and horizontal structures. (2) Even if the organisational environment becomes more complex, dynamic and interdependent, the new technology will accommodate this, creating process technology organisations that have a high level of central control, combined with organic organisational structures.

ICT

ICT can be categorised in many different ways, e.g. by the sort of technology used (hardware, software, communication technology), the generation (e.g. fourth generation programming software), or the topology (network, stand alone, etc.). Since this paper focuses on the relation between organisational structure and the use of ICT, we will use Venkatraman's approach to business IT-alignment (Henderson and Venkatraman 1992). In this approach ICT has to be in line with the organisational strategy and design. Four ICT architectures are relevant:

- Functionality: what information systems are in use and what are the tasks these systems are performing (operational systems, financial systems, office automation software, etc.);
- Data: every information system keeps data, that are part of an organisational information model;
- IT infrastructure: hardware (computers, servers) and communication technology (networks, routers, etc.) ;
- IT staff: the level of sophistication of data-management, and the size and complexity of the IT-infrastructure, has a larger or smaller IT-department with more or with less specific IT-functions (e.g. data-manager, network manager, helpdesk, etc.).

Scope and use of ICT in organisations: the Nolan plus model

In a seminal article in the Harvard Business Review, Richard Nolan (1973) introduced his stages of EDP-growth (Figure 1). According to Nolan the growth of the scope and use of ICT took place in stages. The first and the second stages each combined into a S-curve. In the first S-curve growth of ICT was rapid, but every department within the organisation developed its ICT separate from the other departments. *Departmentalism* creates 'island automation', since the ICT cannot be connected, on the level of functionality or with regard to the data.

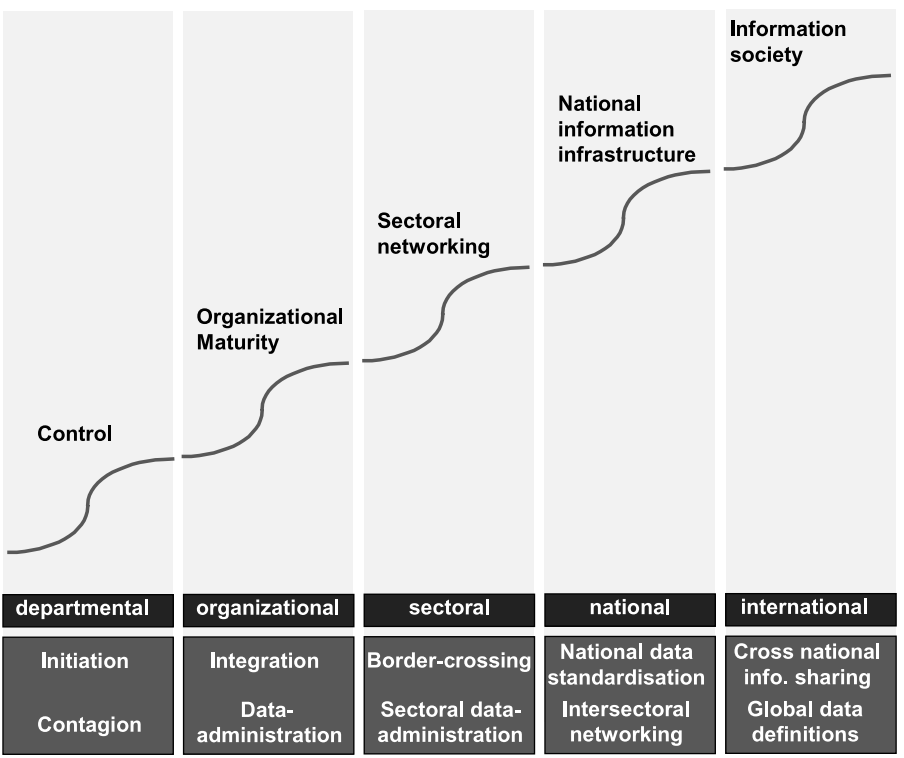
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Mostly, the technical infrastructure is based on different technical standards, which in turn means that the knowledge and expertise of the IT-staff can necessarily only be fragmented.

The second S-curve is reached only if the *organisation* changes the scope of its ICT. The scope now is the whole of the organisation. The organisation introduces an information strategy and information policy in line with the business strategy. A functional architecture and a data model are derived, which determine the technical infrastructure. Standardisation of functionality, data and technical infrastructure is introduced, enabling the IT-department to deliver a higher quality of products, with declining total cost of ownership.

In the mid nineties there are three additional S-curves, thus acknowledging that organisations start to cooperate with regard to their ICT (Cavaye et al. 1998; Zuurmond 1998). The scope of ICT starts to become interorganisational within a sector and this will lead to even higher levels of use of ICT by all organisations involved. This cooperation can be on all four architectures. The cooperation is started mostly within the scope

FIGURE 1: *The Nolan plus model: Changing scopes leading to higher levels of ICT use*



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of one certain sector. More recently we've witnessed an even broader scope: *national* ICT-strategies which try to create standards and stimulate the development of e-government throughout all governmental sectors. Finally, in certain areas we find an even broader scope: *international* cooperation with regard to shared ICT-components, leading to international exchange of information. An early example of this might be the introduction of the ISBN-numbers, which make every book with an ISBN traceable internationally and the 10-digit ISDN-system for phone-numbers; the European standard for banking numbers; or the technical standards for reading smart cards or digital signatures. In all these cases we see high volumes of information and strong connectivity at the international level.

Combining the business ICT-alignment model of Venkatraman and the Nolan^{+} model we now are able to conceptualise and categorise internal ICT into two dimensions: the four architectural ICT-layers and the five stages of EDP-growth.

Internet

The use of internet by organisations follows a growth path. Accenture uses five 'maturity plateaus' to describe the development of internet use by governments.

The first experience with the internet is very simple: Online presence. The organisation starts to use a website; some information is published online. Few services are made available through the internet and only provided by early adopters.

On the second level, basic capability, internet presence is higher. A central internet plan is created and a legislative framework developed for the use of internet. Some solutions about internet security and certification are introduced, giving quick-win transaction capabilities on the internet, e-Commerce starts.

At the third plateau, Service availability, the way services are offered changes. There is the creation of basic portals, and organisations try to make as many services as possible available on line, as quickly as possible. Some more sophisticated transaction capabilities are implemented, e.g. banking on internet. Cross-agency cooperation starts, as agencies combine their services with a customer focus.

At the fourth level, Mature service delivery, services are no longer offered from individual organisations, but are clustered around life events. We see transactional portals where citizens can find service clusters, 'one stop shops' on the internet. To realise these one-stop shops, inter-agency relationships and collaboration across different levels of government start.

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At the fifth level, Service transformation, permanent improvement of customer service delivery is the goal. E-Government is no longer a separate initiative but part of wider service transformation that is implemented across the whole of public administration. (Accenture 2003).

What will be the effect of internet and ICT on organisational structures? On the one hand, following Lawrence and Lorsche, internet and back-office ICT will enable the organisation to enhance its contacts with the environment (higher levels of dynamics, complexities and interdependence) and thus to decentralise its decision making. On the other hand, following Woodward, we could see internet and ICT as organisational technology, used to accommodate enhanced contacts with the environment. We will then find a more process oriented organisation, with high levels of control, combined with more horizontal communication.

Section 2: Benchmarks and a case study

A case study: enhanced quality in the Belgian social security[1]

In this section we introduce the Belgian Crossroad for social security, which combined internet and classical ICT to reorganise the service delivery of the social security system. The Belgian social security system consists of three insurance systems (employees, self-employed workers and civil servants), covering a maximum of seven social risks (incapacity for work, industrial accident, occupational disease, unemployment, retirement, child care and holiday pay), and four social support systems (allowances for the disabled, guaranteed family allowance, minimum income and income guarantee for the elderly), which grant people specific minimum services after verifying their subsistence resources. In all, about 2,000 social security offices are responsible for the delivery of Belgian social security. More than 10 million socially insured persons and 200,000 employers have very frequent contacts with those offices to provide information and pay contributions and claim their entitlements.

An in-depth analysis of social security processes proved that the organisation of social security offices' business processes was not very customer-oriented and was certainly not standardised among security offices. Each social security office had its own set of paper forms with accompanying instructions, on the basis of which, when a social risk occurred, one would request information that was specifically necessary to grant the entitlements in the light of that particular risk. Social security offices very often asked the socially insured persons and their employers to request information that was already available at another social

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security office in the form of a paper document, and to produce that document, rather than exchanging the information directly among themselves. Thus, socially insured persons and their employers had to inform many social security offices of a single event, following different legal concepts and administrative instructions each time. Socially insured persons and their employers had to claim their entitlements throughout the social security system and could not count on the automatic granting of all entitlements on the basis of a single declaration.

Taking the above mentioned principles into account, a global review of the processes throughout the whole social security system was carried out. This resulted is many fundamental changes. Socially insured persons and their employers now need to make only a single declaration to the social security system as a whole in the following cases. No later than the start of an employment relationship, an employer has to declare when (date and time) the employee in question takes up his duties. Every three months, the employer has to declare what income each of his staff has earned, divided into income components that from now are defined uniformly at all social security branches for employees and civil servants, and how many working days or equivalent days each of his staff has worked, divided into types of days that now are also defined uniformly at all social security branches for employees and civil servants. When a social risk occurs, socially insured persons or their employers need only to declare information about that particular social risk; information on income, work performance or equivalent performance no longer has to be reported as it is obtained from the quarterly declarations of wages and working time data. Only if wages and working time data are necessary concerning a period for which the quarterly declaration has yet to be made will the wages and working time data for this period still need to be reported in a provisional declaration following exactly the same principles as the quarterly declaration. By the end of an employment relationship, an employer has to declare when (date and time) the employee in question leaves the company.

All declarations of the beginning and the end of an employment relationship, all quarterly declarations of wages and working time data and all declarations of social risks have to be made electronically, either by exchanging XML messages between applications, or through transactions available at the social security portal, or over a voice server (multilingual, available 24 hours a day, seven days per week). Each employer has access to his list of staff through transactions at the social security portal and can get an electronic list of his staff by file transfer in XML format, so that he no longer needs to keep up to date an own staff register. The elements included in the XML schemes have been defined uniformly in all declarations.

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All social security offices are connected onto a network for electronic information exchange managed by the Crossroads Bank for Social Security, and have a legal obligation to request all information available in the network from each other electronically. This Crossroads Bank for Social Security manages a reference directory, showing for each citizen at which social security offices he is known, in what capacity and for what period; the type of social security office and the capacity in which a socially insured person might be known to that office, which types of data on socially insured persons are available; and which types of data that office needs and is authorised to receive from other offices in order to fulfil its duties.

The Crossroads Bank for Social Security uses this reference directory to ensure that a social security office only gains access to data it is allowed to access, and for people who are known to it. It routes data requests to the social security office that can supply the data in question. It transmits data reported automatically to the social security offices that can use the data in question to fulfil their duties.

About 170 types of paper documents which socially insured persons or their employers had to request at one social security office to pass it to another social security office have been abolished and replaced by direct electronic data exchanges between the social security offices in question. In 2004, almost half a billion electronic data exchanges took place. About 50 types of social security declaration forms have been abolished. For the remaining 30 social security declaration forms, the number of headings has been reduced on average to a third of the previous number. Many declarations are made directly and electronically from employers' staff administration packs and accountancy packages. Socially insured persons and their employers can make all social security declarations on the basis of a standardised apparatus of concepts and standardised instructions, and need to report data to the social security system as a whole only once.

The number of contacts between the socially insured persons and their employers on the one hand and social security on the other has been drastically reduced. Remaining contacts have been streamlined as a function of life events of the socially insured persons or events affecting the employment relationship between employer and employee/civil servant (entering service, performing work, falling sick, leaving the company, becoming unemployed, retirement, . . .). Personal services to employers and socially insured persons are provided. A great many subsidiary entitlements are granted using automated procedures, without the socially insured persons or their employers needing to make declarations anymore (proactive service delivery).

Every time a new employee starts to work for an employer, this has to be registered so that the social security premiums can start to be

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collected. Using the infrastructure of the BCSS back-office ICT and the internet portal a relatively small application (functionality) could be developed, allowing employers to register new employees electronically (it is impossible to use paper to register a new employee). On the site only four data-elements have to be entered (the unique identifying number of the company and of the employee, starting date and, if a seasonal contract, ending date of the contract. Through the communication network of the BCSS all other relevant information is collected out of the authentic registrations in the network. Thus, the BCSS 'fills in the form' instead of the employer. The electronic data-set is then sent to the RSZ, the agency that collects the social security premiums.

The introduction of this internet-application (Dimona)[2] was relatively simple, since all ICT-components were already in place. All these components were reused, as a sort of interorganisational information infrastructure, to create a new service. This new service implied a strong reduction of administrative burdens for the employer: no paperwork, no separate employee register needed anymore. It also made work for the public sector organisations easier, through business process redesign.

Most importantly, now all information of all employees is available, directly and online, the fraud fighting (illegal workers and premium evasion) can be done effectively. Informal estimates of the results indicate that extra premiums of up to two billion Euros per year are collected since the introduction of Dimona. These claims are made in informal contacts between the researcher and the CBSS. One other indicator was the surplus on the budget of the social security in Belgium for the year 2002.

Why did Belgium successfully modernise its social security sector when so many other countries have failed? First, there was a strong sense of urgency: because of administrative chaos in the 1980's, it was clear to everybody that modernisation was absolutely necessary. Second, leadership was crucial. The political leader and the administrative leader shared the same vision and held their positions for many years. Resistance was dealt with in a clear cut manner; the story goes that the Minister of Social Security fired two directors that did not want to implement the plans, which made clear to all organisations and personnel involved that this modernisation would not stop. Third, a strategy of reduction of conflict potential was followed. In many E-government strategies an attempt to shift the power balance is part of the solution, which means that the existing powers will resist. In this case only minimum changes have been made. Data collection and data storage are not centralised, and every organisation could stick to its own internal standards. Only between the organisations another standard (Edifact) was introduced, which did not threaten the internal organisational power

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balances. Finally, it has been implemented as a piecemeal reorganisation; for every step only a few organisations were affected. They received very concrete gains, and large profits with the modernisation. Most of the money gained, was not 'taken away' by central political powers.

Section 3: Analysis: more control and decentralisation

The use of internet by governments is growing. In the early stages of internet use, the front office is not connected to the back offices. In other words, the classical ICT (see Nolan plus model and the alignment model) do not meet the modern internet technologies. The back-offices work processes and the organisational design are not affected by the introduction of internet. Moreover, as the Belgian case study shows, a totally different image appears.

Following the Business-IT alignment model of Venkatraman, Internet and classical ICT are developed from a business strategy point of view. This is not an E-government approach; it is a social security strategy. Belgium wants to reduce the administrative burden, enhance the quality of service delivery and enhance effectiveness and efficiency in the social security sector as a whole. From the business strategy an information strategy (reuse of data, high level of data security and privacy, etc.) and an information policy was created with a separate, intermediary organisation, the CBSS, used to collect information. From that, functionality (e.g. the portal, and the Dimona application), the information model (highly standardised definitions of income, employee, employers information, XML schemes), a technical infrastructure (providers, networks, etc.) and the relevant IT-organisation (CBSS, with around 70 employees) has been created. This is what Venkatraman calls a strategic fit. ICT enables the agency to reach its strategic goals.

At the same time, we witness functional integration: the work processes in all 2000 organisations involved have been redesigned, deleting paper work, lengthy forms, etc., to meet the strategic goals.

If we turn our perspective to ICT and internet, we see that the classical ICT, in the back offices of public sector agencies, are developing towards stage three/four of the Nolan plus model. The case of the Belgian social security clearly illustrates this: all 2000 organisations are connected by the CBSS. All applications are connected (functionality), a datamodel is put in place (data-architecture), all sorts of technical components (firewalls, networks, routers, etc.) have been introduced, and a complete IT-organisation is operational (CBSS). All this is introduced not for one organisation, but for the complete social security sector. Now we see an E-government approach in Belgium, that tries to implement the same ICT-infrastructures in other sectors, and that tries to introduce common

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components for all Belgian government agencies and layers of government (unique numbers for employees, employers, digital signature, electronic identity card, XML-schemes, universal messaging engine, etc.). Within a few years Belgium could reach the fourth stage of the Nolan plus model.

Classical ICT and internet converge more and more. Together they form an interorganisational information infrastructure that enables organisations to cooperate intensively in ad hoc, but also in permanent alliances, exploiting certain business processes together. We see clear examples of chain integration, with the organisations moving from a supply mode to a demand mode as life events become the corner stone of the service delivery system.

Consequences for the structure of organisations

What is the effect of converged use of internet and classical ICT on the organisational structure? Is the first hypothesis correct in predicting less centralised, organic structures that cope with the dynamic, complex and interdependent environment, or will changes be accommodated in a process technology infrastructure that is centrally controlled?

Some indications can be given. First the interorganisational use of ICT is a relatively new phenomenon. Bekkers (1990) sees three different scenarios evolve from the introduction of interorganisational ICT: Colonisation, penetration and integration. With colonisation one organisation takes control over the other organisation, using ICT as leverage. With penetration organisational boundaries become more permeable, letting outsiders get in. Finally with integration, organisations start to share information infrastructures and co-develop information strategies and information policies. From the Belgian case, and from the benchmarks it appears that the third scenario is most likely to occur.

In the case study we see an interorganisational information and knowledge infrastructure that is becoming a separate entity more or less underlying all sorts of coalitions and cooperation schemes. Organisations combine and recombine work processes and the relevant information and knowledge base, to reach new strategic goals. Just like a network of roads, that enable us to choose different locations to go to, depending on our strategic goals at any given moment, an information infrastructure enables the cooperating organisations to create a flexible variant of chain integration.

Both hypotheses appear to have some relevance. We will witness organic structures with decentralized decisionmaking and more centrally controlled decisionmaking in the same infrastructure. The choices made will be contingent: the more complex, interdependent

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and dynamic an organisational task, the more likely a professional structure will be.

We will find a creeping trend towards Woodward's process structures: the interorganisational information infrastructure can be seen as a takeover of the boundary spanning functions, normally performed by street level bureaucrats with their typical high levels of professionalisation. Traditionally street level bureaucrats needed to have discretionary powers, which in turn meant a decentralised structure: the type of network organisation that is more typical of the Human Relations School. With the interorganisational information infrastructure put in place (as the new technology of organisations), organisations can accommodate much more dynamic situations, more interdependencies and more complexity, without decentralising their control structures.

Two amendments have to be made, to acknowledge for the new developments. First, the technology in use is inter-organisational, where Woodward focused on intra-organisational technology. Second, the process technology firms produced large quantities of the same product (petrol, sugar, milk, beer, etc.). With this interorganisational information infrastructure, it is possible to realise mass customisation: every customer receives a customised product, asked for at that moment in life that it is needed (life event approach, with demand driven production, instead of supply chain driven production). In this light, we might be witnessing a new type of organisation, the mass customisation, interorganisational process-organisation. This can be seen as a neo-Tayloristic organisation.

From a Weberian perspective, I would call this a new idealtype, an infocracy, since control is realised through the information infrastructure, that determines what can be thought and known, and what cannot be thought and known. The interorganisational information infrastructure controls the decision premises of all organisations that are connected. Control is no longer monocratic, nor is it exercised using vertical lines of authority. Infocratic organisations, even if they have the organic structure of the Human Relations School, exert maybe even more control than the classical Tayloristic or Weberian hierarchies (Zuurmond 1994, 1998).

Section 4: Convergence and new organisational structures

What kind of organisational structure evolves when internet and classical ICT converge? The first conclusion is that internet and classical ICT are converging. We described five stages of EDP-growth, which represent the growth of back-office, classical ICT. Next to that, five plateaus of internet use were introduced, to depict the development of front office use of internet (mostly for service delivery). To reach the higher plateaus, the

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back office ICT have to be highly developed as well. This means that there has to be a strategic alignment between business strategy and internet strategy.

We differentiated countries with regard to their E-government scores. The Belgian case study of the Crossroads Bank for Social Security shows the possibilities of an interorganisational information infrastructure: business processes can be redesigned, service can be delivered at a much higher level of quality (demand driven, instead of supply driven). The infrastructure facilitates chain integration and delivers higher effectiveness at lower costs (efficiency). The administrative burden for employers is reduced.

What does this mean for the organisational structure? While the results are not conclusive, some remarks can be made. First the distinction between the two alternatives might be wrong in itself: the 'Woodward approach' may be found in the infrastructure of the organisation, in the means it uses to reach its goals. In this paper we've only focused on information management as one of the means of organisations, but similar developments can be seen with regard to financial management and human relations management. In the literature on quality management the role of these means become more important when the organisation reaches higher levels of quality. At the same time, the same organisation can be very organic, but this will be the case for the alliances that are formed around the infrastructure. It will mean another form of professionalism: professionals that accept and use the means made available through the infrastructure.

Another development is the restructuring of workprocesses in such a way that the services can be ordered in other ways than the classical supply chain driven organisation by introducing the concept of life-events, or by ordering around different target groups (youth, elderly, etc.) or around certain societal questions (safety, immigration, terrorism, etc.). If the infrastructure is fully developed the different clustering strategies might be realised in parallel in a virtual sense. This will certainly be the case if multichannel management is introduced. At that moment life event portals can exist at the same time that one stop shops for certain target groups are operational. In many cases self service will be available for customers, in well defined cases even proactive service delivery will be possible. The street level bureaucrat will only be necessary for complex situations, but even in those cases the professional will be forced to use the interorganisational information infrastructure in place, which will reduce the discretionary powers of the street level bureaucrat and enhance the transparency of his or her actions.

The structure of government at large might change. Since the seventies most governments have adopted the business unit model. This model

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leads to what Mintzberg (1979) calls balkanisation, since every division starts to make war with the other divisions. Recently we see another structure evolve, where shared services are introduced for HRM-facilities, financial management facilities, communication, housing and IT-management. The divisions have to share these components and cooperation between the divisions is much stronger than it used to be.

From a Weberian perspective, the convergence of internet and classical ICT and the consequence of this development for the structures of organisation are exponents of the process of globalisation and modernisation. Western, capitalist democracies create an ever more complex, dynamic and interdependent society. In this information society organisations are needed that combine effectiveness, obedience, efficiency and calculability with flexibility, speed, and a more holistic approach.

NOTES

1. This section is derived from a publication of Jan Deprest and Frank Robben, 2003.
2. Dimona is an acronym, and stands for 'Déclaration IMmédiate – ONmiddellijke Aangifte', which means immediate declaration (every time a new employee starts for a company, this has to be declared immediately to the social security agency).

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