

Lean Government: Critical Success Factors for XBRL-based Business-to-government Reporting

Lean government is all about doing better with less through the use of ICT and the realisation of process improvements. The recently introduced eXtensible Business Reporting Language (XBRL) has shown some initial success in realising lean government. Once data is stored in XBRL format, businesses can transmit it electronically to government for reporting purposes. For businesses, XBRL will increase both corporate accountability and transparency by reducing the time needed to collect, structure and share corporate data within the company, as well as with supply chain partners, investors and government agencies. Government agencies will benefit from higher information quality (no data rekeying in the reporting chain) and new forms of compliance monitoring requiring fewer resources. Yet, because of the complexity of standardising processes, data and infrastructure in a public-private information exchange, the full potential of this 'sleeping giant' is often left dormant in practice.

Drawing on the best practice of Standard Business Reporting (SBR) in the Netherlands, this paper shares some critical success factors derived from the move towards a lean government in the country. Eight critical success factors (CSFs) focusing on the transformation process are identified. While the scope and elaboration of the factors is limited to business-to-government (B2G) reporting, the possibilities for lean government are broader, opening new avenues for governments and researchers.



Nitesh Bharosa

Delft University of Technology



Niels de Winne

Delft University of Technology



Remco van Wijk

Delft University of Technology



Marijn Janssen

Delft University of Technology

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“ XBRL is a sleeping giant that is awakening to realise lean government. ”

1. Introduction

Governments all over the world are under pressure to reduce their costs without deteriorating service levels, or even attempt to improve them. To accomplish this, governments are embracing the concept of 'lean', which originates from the manufacturing industry. It focuses on eliminating several types of waste in business processes (Ohno, 1988). Lean involves a variety of tools and technologies (Womack, Roos, & Jones, 1990). The concepts of lean processes have recently been adapted to the financial sector (George, 2003). The next frontier will be the public sector, which needs to get leaner to reduce cost, improve efficiency and at the same time improve quality and service levels.

The processes for the exchange of business-to-government information are changing under the pressure of new technologies, which enables new opportunities, as well as under the pressure of better compliance and cost savings. Compliance monitoring, which refers to the continuous process of collecting and analysing business information in order to determine the extent to which the regulated community operates in accordance to legislation, is one of the most important tasks of government agencies (Bonazzi, Hussami, & Pigneur, 2010). Government agencies with regulatory tasks require companies to report business information for many different purposes such as taxes, statistics, industry regulation, safety, environmental control, etc. Government agencies demand this information in order to check if businesses operate in compliance with the established laws and regulations. While the amount of reporting may vary, in general it is significant and has grown over the recent years, particularly as a result of more stringent regulatory requirements (National Audit Office, 2008). Historically, these reporting requirements have grown piecemeal, often driven by diverse legislation and different agencies within governments, with little or no coordination of what information should be reported and how it should be reported. As a result, a company often ends up reporting the same information multiple times to different government agencies and in different formats. This means that the reporting of data to government agencies has become a significant cost burden for companies.

A recent study by the Organisation for Economic Cooperation and Development (OECD) estimates this cost to be around 2.5 % of the GDP (OECD, 2009). Consequently, businesses call for reducing the cost of compliance, referring to the expenditures needed in order to collect, structure and share business information with government agencies. Reducing this cost is a major driver for transforming the business reporting architecture in many western countries. While reducing the amount of information demanded from businesses may seem to be a straightforward option, the many financial and auditing scandals (e.g., Lehman Brothers) and private sector failures of the past decade remind policy makers why they need to monitor compliance in the first place.

When it comes to reducing the cost of compliance for businesses, policy makers also draw attention to the high cost of monitoring and regulatory enforcement. Pressured by the on-going economic crisis, policy makers urge for a 'compact' government with fewer personnel and reduced spending. However, an impasse emerges when we consider the conflicting goals of becoming more vigilant (i.e., by means of compliance monitoring) and downsizing when the number-one challenge faced by all governments is capacity. Government agencies simply do not have enough resources to keep up with ever-expanding and ever-more complex workloads. Lean is a promising approach for helping government deal with the challenge of crushing demand and limited resources. It recognises that inefficiency resides in our systems and the way we have designed our work processes.

A lean government does more tasks with fewer resources by means of standardisation of processes, data and the collective IT-infrastructure. Understanding the implications of this statement requires us to consider the *modus operandi*. Usually, government agencies react to budget restrictions by enforcing traditional policies, including hiring freezes, travel restrictions, delaying maintenance, and so on. While these actions may result in a better balance sheet in the short term, the inefficiencies in processes remain the same. Alternatively, agencies that employ lean thinking examine the actual work being done and find ways for doing things more efficiently while creating more value (e.g., new services and improved service delivery). Lean focuses on reducing time and resource waste in batching, bottlenecks, backlog, checking and re-checking processes. Waste is anything that does not add value from the customer's point of view; in this case, the businesses in the regulated community and the regulators. Lean concepts such as increasing capacity, reducing manual processing, making processes flow more smoothly and understanding which customer's value can have a huge impact on government performance. More efficient and effective use of IT is one of the imperatives for lean processes.

However, a major challenge in realising lean government is the lack of data standards for exchanging business and financial information among governments and businesses. The lack of a standard business identification numbering system for various government agencies hinders the reuse of financial and business information submitted by businesses. The manual process of data extraction from paper or PDF reports is time-consuming and error-ridden. Moreover, it is difficult to compare the financial performance of two businesses when, for example, the definition of 'expenditure on equipment' differs across public agencies.

On the business side, compiling business and financial reports for various government agencies with differing data definitions and rules is burdensome. Even when financial information is collected electronically, the integration of data elements from various data sources is difficult without a common data standard. The recently introduced XBRL can accelerate the standardisation of B2G reporting needed to realise a lean government. Once stored in XBRL format, businesses can transmit the information electronically to government for reporting purposes. Hence, the burden of manual processing can be significantly reduced, thus taking a critical first step towards the sought for lean government. Agencies can be more efficient in gathering and analysing financial and business information when using XBRL as a standard. XBRL also allows for business rules to be embedded, which enables automatic validation of business rules in financial reports. Such automation is a significant efficiency gain. Consequently, scholars have described XBRL in various ways: as "a sleeping giant" (Pinsker, 2003), "a critical technology" (Burnett, Friedman, & Murthy, 2006) and a "source of fundamental change" (Troshani & Doolin). XBRL is viewed as a Web 3.0 (semantic web) technology, where financial information is machine-readable and standardised for meaningful comparison. Once XBRL is made available on the Web, it has the potential to introduce a new era of open government.

Summing up, the adoption of XBRL presents new opportunities for considerably enhancing the business information supply chain and creating a leaner government. However, its diffusion has proved to be very challenging. Drawing on a qualitative, interpretive study (Walsham, 2006) of the implementation of XBRL in the Netherlands, this paper describes the challenges for creating a lean government and reveals CSFs for addressing them. CSFs are of a conceptual character that implies increased dialogue between research and practice in order to identify new perspectives.

This paper proceeds with some background on the commencement of XBRL in the Netherlands. The Netherlands are considered as the front-runner in the implementation of XBRL while many other countries have started similar initiatives (OECD, 2009). The case study involves a data taxonomy resulting from legal and process compliance requirements, collaboration in a network of government agencies and private parties and no optimal solution. Section 2 explains the components of XBRL in more detail, as well as the advantages anticipated from its implementation. Section 3 presents lessons learnt from the case study as CSFs for guiding stakeholders in public-private networks. This paper concludes with a discussion on the transformation to lean government and the definition of avenues for further research.

2. Case study: XBRL for Standard Business Reporting in the Netherlands

2.1 The pre-XBRL business-to-government reporting chain

Like many other countries, the Dutch government was, and still is, searching for ways to reduce the cost of compliance for companies and the cost of monitoring for government agencies. The earliest attempt dates back to the National Taxonomy Project (NTP) which started in 2004 as part of the parliament's objective to reduce the administrative burden for companies (van Veenstra, Janssen, & Tan, 2010). In addition, the development of a more transparent, effective and efficient compliance monitoring architecture for government agencies was called for by the parliament. From the beginning, it was clear that achieving these goals required the creation of lean B2G processes, standardisation of data and process definitions, alongside the development of a secure electronic reporting infrastructure. NTP reversed the reporting chain: it is not 'government' systems that are decisive, but businesses' financial administration is taken as the starting point. This is accomplished by having a common language that is realised in the data taxonomy that provides a universal set of financial concepts. This taxonomy would enable a company to generate the required reporting information directly from its own records, and allow government to check this information efficiently and effectively. The open-source platform and its supporting international community were two main reasons for the selection of XBRL. One of the main results of NTP was the first version of Dutch Taxonomy, a structured list of reporting definitions, guidance, references, rules and relationships in accordance with the relevant laws and regulations. The Dutch Taxonomy is based on XBRL. We will briefly explain XBRL in section 2.3.

In 2006, a feasibility study on a generic reporting infrastructure delivered a first set of functionalities required for financial reporting using the XBRL standard. In 2007, the first versions of the technical infrastructure developed for exchanging data based on XBRL were ready. Stakeholders decided that it should be controlled and maintained by a government agency. This agency provides IT-infrastructure building blocks related to data exchange, data processing, standardisation and information security.

Since 2009, NTP continues as the SBR Programme. The programme objectives are deepening and embedding the results obtained so far. As such, SBR is advertised as a programme to reduce administrative burden for companies by providing a standardised data representation format, semantics and secure electronic infrastructure for filing official reports (Winne, Janssen, Bharosa, Wijk, & Hulstijn, 2011). The achievement of this goal requires a major transformation of the previous architecture for financial reporting depicted in Figure 1.

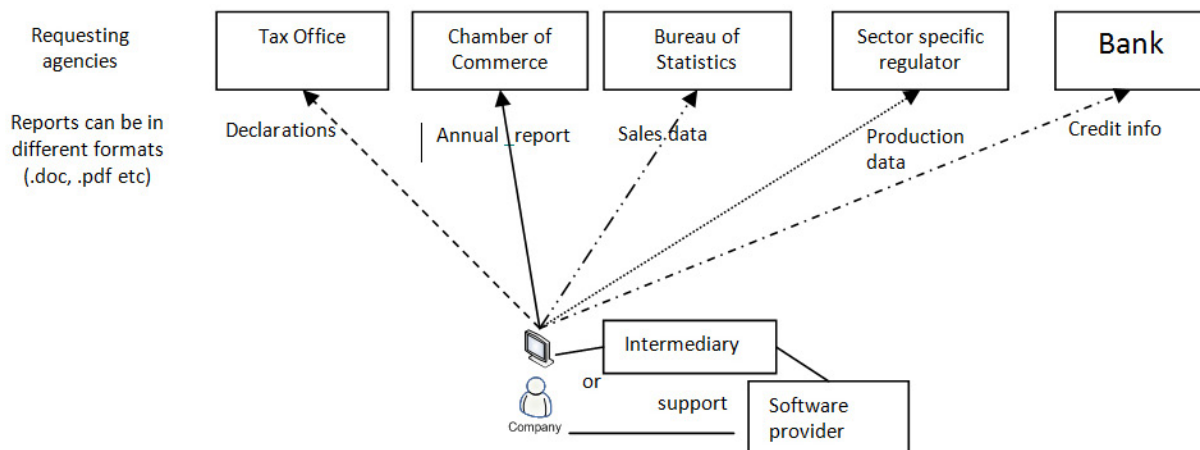


Figure 1: The pre-XBRL B2G reporting chain

Figure 1 shows the fragmentation and many reporting obligations of public (requesting) agencies. Government agencies and other organisations (e.g., intermediaries and banks) have different requirements for the same piece of information. The different dashed lines from a company to the government agencies underline this situation, demonstrating the extent to which companies have to produce unique reporting capabilities to fulfil their reporting responsibilities to government. The cost of compliance for the average business increases when the various government agencies employ many data formats (templates) and definitions for the required information. The required information often resides in the various databases a company uses for its day-to-day operations. However, for accounting and financial reporting purposes, the fragmented information first has to be manually assembled, reformatted, modified or re-entered before being sent to government agencies. Each entry error and every report that needs resubmitting incurs a cost. Typically, a company is required to provide information to government agencies such as the Tax/Revenue office, Statistical Agency, the Chambers of Commerce and sector specific regulators. These governmental agencies check commercially sensitive data of thousands of companies. Although business and governments have the same objective of reducing the administrative burden, governments have different concerns than businesses (e.g., different value perspectives, legislation/political concerns) and these concerns might compete at some time (Turner, Bowker, Gasser, & Zackland, 2006).

In Figure 1, companies report based on proprietary software applications, each dictating reporting templates for users. This means that information models, business rules, process designs, controls, etc. are redundantly embedded within each software application. Moreover, data validation and analysis need to be conducted by consumers (receiving agencies) and manual manipulation of information from disparate sources is needed to create custom reports. The stakeholder group referred to above as 'intermediaries' is a large group and includes accountants, tax agents, financial advisors, payroll specialists and book-keepers, as well as business and industry associations. In conclusion, in the pre-XBRL situation, companies and their intermediaries are left with the problem and cost of identifying each piece of information within their accounting or other systems and mapping that information multiple times for different reports. This situation presented the basis for launching XBRL in the Netherlands. The next section presents the benefits expected from the implementation of XBRL.

2.2 The XBRL based B2G reporting chain

Figure 2 shows the envisioned standardised, XBRL based reporting streams to requesting agencies such as the Bureau of Statistics (production statistics, investment statistics and short-term statistics, i.e. revenue per period), Chambers of Commerce (possibility to file the year-end financial report) and Tax Office (revenue taxes, corporate taxes, income taxes, etc.). The gateway checks and forwards incoming XBRL reports. Depending on the requirements of the requesting agencies, the gateway can also perform other services (e.g., authentication, logging, archiving, validation and enrichment). In particular, it could be used to allow for a single submission of financial data which the Gateway 'disaggregates', sending relevant information to each agency as appropriate. Stakeholders in the SBR programme have chosen the 'store once, report to many' architecture. This means that although the data definitions and the infrastructure may be re-used over different reporting chains, the actual act of reporting remains specifically addressed to one agency. The reasons for this choice are twofold: firstly, legislation does not allow the re-use data collected for one purpose to be used for different purposes; secondly, reports may have a different function and may therefore have different contents. For example, in a tax report, the company will try to report as little revenue as possible. In a year-end financial statement meant for shareholders, a company will try to report as much revenue as possible in order to appear as a solid investment opportunity.

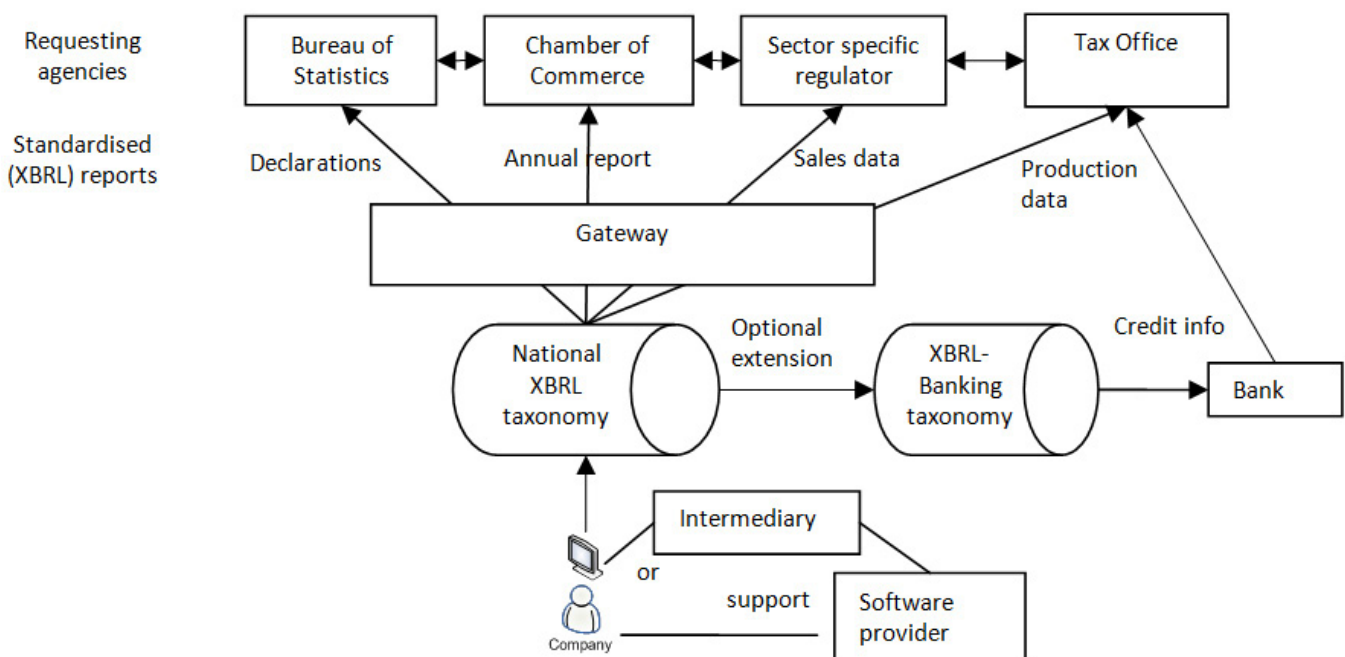


Figure 2: Lean information flows for B2G reporting chain

As depicted in Figure 2, SBR will operate much like a post office, simply moving electronic messages from business' systems to the right agency, and returning an electronic receipt. While the main goal is the development of a single set of reporting definitions in a single language, a further goal is for the information to be sent directly and electronically from the business' systems to the participating agencies, and remain in the control of the business. This cooperation is settled in an agreement that was signed by over 80 parties. The main idea behind SBR is that the development of a XBRL based taxonomy, harmonised across the needs of participating public and private agencies will simplify and accelerate business to government reporting.

2.3 The benefits of using XBRL

XBRL is an example of lean government that reinvents the way in which data are used and transmitted in business.. As a derivative of XML, XBRL takes advantage of the ‘tag’ notion which associates contextual information with data points in financial statements. Each item (e.g., profit) is tagged with information about various attributes, such as calendar year, audited/unaudited status, currency, etc. These tags are understandable to both computers and humans. The tags themselves are based on accounting standards and regulatory reporting regimes and are defined in XBRL taxonomies (Pinsker, 2003). These are developed for specific countries, accounting jurisdictions, and even specific organisations (Deshmukh, 2004). Therefore, the purpose of taxonomies is to provide standard rules on how information is applied worldwide. When formatted with tags, financial statements are called XBRL instance documents. Instance documents can be read by any software that includes an XBRL processor and thus can be easily transferred between computers. To create instance documents, you do not need to take an XML computer programming course. The necessary software in order to tag data for clients, submit tagged data to various recipients, and receive and analyse tagged data from other sources is available. The following table summarises how these characteristics of XBRL can benefit both businesses and government agencies.

Table 1: Benefits of XBRL adoption for B2G reporting

Benefits for businesses	Benefits for governments
<ul style="list-style-type: none"> • Single language to report to government agencies, regulators and potentially banks. This reduces the time and cost of assembling, analysing and providing data to government thanks to the articulation of information models, business rules, process designs, controls, etc. in standardised taxonomies that are executed across software applications. • Real time reporting via XBRL increases corporate accountability in two ways: reducing the time period management has to eventually manipulate reported information; increasing user access to the information, thereby increasing the information’s transparency (Hannon, 2003). • Opportunities for streamlining the process of passing/aggregating data across different internal departments, offices or business units of a company. • Increased interoperability of information across finance applications. • Increased access to comparable performance information to guide investors. 	<ul style="list-style-type: none"> • Improved data quality – no human rekeying of data and less manual intervention leads to fewer errors. • Data validation tasks are partly moved to the accounting software since XBRL allows for business rules to be embedded, thus enabling automatic validation of business rules in financial reports (data validation at the source). • A data dictionary (taxonomy) is at the heart of XBRL that standardises the financial terms used. Such standardisation allows for meaningful comparison of financial information across businesses and allows for the aggregation of financial information across a business sector for monitoring purposes. • Government, when using XBRL as a standard, can be more efficient in gathering and analysing financial and business information. • XBRL enables new and more targeted (risks-based) forms of inspections and regulations (e.g., continuous control monitoring), thus allowing for advanced data mining and cross-checks in the supply chain.

As outlined in Table 1, the benefits of streamlined reporting are not limited to meeting government reporting requirements. For regulating agencies, XBRL can provide benefits such as benchmarking/market comparisons and credit risks monitoring (trend and what if analysis). XBRL can also be used for business-to-business (B2B) reporting, something that is becoming increasingly important in supply chains and business networks. Initially, most applications of XBRL were executed in the context of the financial domain, covering reports to the Tax Office, Bureau of Statistics and Chambers of Commerce. Due to the generic nature and applicability of the XBRL language, broadening the scope to other domains and applications also became a programme objective. In the future, the inclusion of applications concerning food quality and public health are also envisioned.

3. Challenges and Critical Success Factors in the Transition to a Lean Government

The adoption of XBRL presents new opportunities for considerably enhancing the business information supply chain. However, its diffusion has proved to be very challenging. It involves complex interdependencies between processes, data and technical infrastructure and the interests of many public and private stakeholders. Moreover, government projects which involve the development of information systems often turn out to be more expensive than initially estimated, require more time than planned, and do not deliver intended results (Heeks., 2005). The case study in the Netherlands allows us to clarify what the challenges are and which factors were critical in successfully addressing them.

Rockart (1979) first introduced the term critical success factor in his efforts to help CEOs develop their systems. Rockart defined CSFs as the few key areas in which things must go right for an organisation to thrive and these are “areas of activity that should receive constant and careful attention from management”. According to Boynton and Zmud (1984), “the CSF methodology is a procedure that attempts to make explicit those few key areas that dictate managerial or organisational success”. Remus and Wiener (2010) argue that CSFs cannot be treated as instrumental, causal or objective. Instead, CSFs are of a conceptual character, which implies increased dialogue between research and practice in order to identify new perspectives. Typical CSFs in literature (e.g., Gil-García & Pardo, 2005) include leadership and project champions, project team competence, end-user training and education on new business processes, etc. While such factors have also played a role in the SBR case, we focus on deriving CSFs that specifically target XBRL related challenges. The XBRL related challenges and CSFs found in the case study are outlined in Table 2. Addressing these CSFs helps create a lean government.

Table 2 provides an overview of the challenges and CSFs derived from the SBR case study in the Netherlands. The following subsections provide more detail on how the CSFs helped address the listed challenges.

Table 2: Overview of challenges and critical success factors for creating lean government

Challenge	Critical Success Factor
Poor data quality	Business data reuse
No green field	Use of generic (shared) infrastructure services
Different ways of thinking, modelling and working across the stakeholders	Emergence of architecture as a critical stabilising force
Complexity of checking huge volumes of business data delivered to government agencies	Shift of control tasks for simple data checks and functions to the businesses
Many deliverables of the transition to XBRL based reporting are not yet clear upfront	Restrictive yet flexible project management
Adoption of XBRL amongst businesses, intermediaries and software providers	Positioning SBR as a cross-government policy initiative
	Emphasis on end-to-end security
Avoiding the emergence of various jurisdiction-specific taxonomies leading to standardised yet incomparable data definitions	Development of a national taxonomy allowing extensions

3.1 Business data reuse

This CSF underlines the need to analyse existing reporting needs, processes and procedures as one of the first steps towards SBR. Compliance reporting is a very specific domain with its own lexicon of process flows, standards and definitions. Due to the extensive body of legislation in this domain, there is little room for legislative or process adaptation to introduced taxonomy and infrastructure design. As such, several agencies within the Dutch Government continue to work directly with software developers, intermediaries and business in implementing SBR so as to enable government reporting to become a by-product of the information already in the businesses' accounting systems. Doing so enables SBR to be used not only for reporting to multiple regulators, but also for improving internal reporting and analysis. The key components of interest to accountants would be the rationalisation/harmonisation of terms and definitions, the mapping of the taxonomy and the use of the SBR-enabled tools when available. It is expected that SBR will become standard functionality in accounting, financial and payroll software, but the benefits accrue only when that functionality is used extensively.

3.2 Sharing of generic infrastructure services

Government agencies are known to be reluctant in opening up their systems and infrastructure to other agencies. Since there is no green field, a detailed understanding of the IST situation is imperative for the successful migration to an SBR environment. In the Netherlands, several agencies have agreed upon the development and use generic infrastructure components (e.g., electronic recognition, process engine and message validator) for handling specific types of public-private information sharing. Instead of having to abandon their legacy systems, the agencies can use generic services provided and maintained by the central government's infrastructure provider.

3.3 Emergence of architecture as a critical stabilising force

The public-private collaboration formed, to achieve a lean government has complicating characteristics, including: intertwining of requirements with implementation and organisational contexts; dynamic evolution of requirements; and the need to recognise unprecedented levels of design complexity because of the continued evolution of problems and artefact solutions after initial implementation. Stakeholders used architecture in a different way compared to most IT implementation case studies, in which architecture is a mere 'tool' for managers. Architecture was used for four purposes: analysis and communication; design and change management; control and governance; and audit and evaluation. Consequently, architecture is a stabilising factor during the continuous iteration between legislation changes, business reporting requirements and solutions (e.g., taxonomy and web-services). Architectural considerations and associated evolutionary paths played a central role in shaping and reshaping business, product and application requirements. Recognising the necessity to consider architectures as enablers and constraints in the continuous creation and shaping of design ecologies, stakeholders managed the implementation of XBRL through architectures.

3.4 Shift of control tasks and functions to the businesses

This CSF proposes to move quality assessment and error detection capabilities into the vendor supplied accounting software, which can be used by companies to directly send reports to the requesting agencies. Such application controls will automatically verify correct entry of data against the data types (e.g., 31 February is not permitted), and will verify reconciliation relationships between data elements (e.g., the sales total over months should equal the sales total over departments). Since built-in application controls reduce the possibility for errors, reliability of the data is improved. From a small business perspective, such SBR controls will be almost invisible, as the facilities will be built into the accounting software that businesses use to manage their records. Moving up the scale to large business, much of the SBR abilities will still be built into accounting software, but the range of reports will be broader. Some of the information mapping between the SBR definitions and the information in business' accounts will need to be set and audited by the business or its accountant. However, once mapped in a reliable way, the information can be used to satisfy a range of reporting needs. For some of the simpler forms, the accounting software may pre-fill the reports while companies can complete the forms where necessary, check for accuracy and validity and correct any errors before final submission. This will save time and effort with corrections.

3.5 Position SBR as a cross-government policy initiative

This CSF addresses the issue of stakeholder's expectations and gaining commitment. XBRL is a 'network innovation' requiring concerted action from several stakeholders to be widely adopted. For this reason, its development has been, and continues to be, facilitated through the voluntary and collaborative efforts of key stakeholders - currently driven principally by local government and regulatory agencies (Willis, 2005). SBR is an example of using new technology (XBRL) to achieve a policy objective; in this case, reducing the burden of reporting to government agencies. We found that it is crucial for this policy objective to be underlined; otherwise, SBR becomes a technology-push initiative providing a solution to something that is not perceived as a problem by everyone. Of course, SBR is not the only way to reduce the administrative burden and it may not be the most appropriate way in the circumstances of particular sectors (e.g., customs and trade, agriculture). SBR offers a way for the requesting agencies (e.g., Tax office, Chambers of Commerce) to meet their

own regulatory targets while contributing to wider government policy objectives. There is, therefore, every reason for the revenue body to play a major part in assessing the potential of SBR and driving its implementation. However, ideally, leadership should come from a policy arm of government that ranges wider than just tax reporting. This is what has transpired in the Netherlands, where both the initial assessment and the implementation have been led by a consortium of the Ministries of Justice and Finance. This has given the Dutch project a very powerful base and has avoided the project being seen as just a new tax collection initiative or an information technology push.

3.6 Emphasis on end-to-end security in the reporting chain

The final CSF covers the issue of security in the B2G reporting chain. In the SBR case study, security, more specifically authentication (using digital certificates) and authorisation (permissions and delegation to intermediaries), has led to considerable debates and delays. The requesting agencies underline the need for ‘end-to-end security’, referring to security checks and controls beyond a single secure sign-on built into company software and the gateway. Certificate and permissions policy used for transactions to the requesting government agencies should guarantee non-repudiation and confidentiality (disclosure of information to unauthorised individuals). Security from an end-to-end perspective requires business to register once for a digital credential (provided by the Dutch Chambers of Commerce). A company can now use that credential to send reports from its accounting system via the gateway to the appropriate requesting agency.

3.7 Development of a national taxonomy allowing extensions

Initially, there was no agreement amongst the requesting agencies on what type of information they need from businesses. There was debate on the need for each of the jurisdictions (e.g., tax, safety, etc.) to develop different XBRL taxonomies as their data standards. Stakeholders in the SBR programme quickly abandoned this road because it would lead to semantic heterogeneity in the taxonomies, the corresponding instances and the internal systems that store the original data. Consequently, there would be substantial difficulties in creating and using XBRL instances that involve multiple taxonomies. To fully realise the potential benefits of XBRL, stakeholders opted to develop a single national taxonomy that reconciles semantic heterogeneity and assures interoperability of various parts of the supply chain. Extensions to the taxonomy are allowed if these do not cover the process requirements of the stakeholders.

3.8 Restrictive yet flexible project management

The public-private collaboration (PPC) formed in the SBR case needed to address this ‘lean yet vigilant’ dilemma. Generally, PPCs have proven to take a long time to establish and lead to fruition. Hurdles that delay the achievement of goals include the need to agree on standards in an environment with heterogeneous interests, changing laws and unclear revenue models. Many deliverables of the transition to XBRL based reporting are not yet clear upfront. While literature on managing PPC hints towards the need for both compulsory measures (plan-driven, restrictive) and adaptive measures (learning-driven, leeway), the SBR case study revealed that both compulsory and adaptive measures are necessary to advance in multi-actor standardisation processes (Bharosa et al., 2011). One example is the restriction to using a single national taxonomy, while allowing extensions to this taxonomy. Another example was the way companies could connect to the gateway. While companies were restricted in using the gateway as the exclusive channel for system to system communications, they are left free in deciding which of their systems will connect to the gateway and to what extent XBRL is embedded in their business transactions (bolt-on, build in or embedded).

4. Conclusions

The promise lean government brings is simple: public agencies will be relieved from redundant compliance and monitoring tasks (and associated costs), while companies will be rewarded with simplified and accelerated reporting procedures (and lower costs of compliance). Moreover, governments will benefit from better quality and improved information forms of compliance monitoring requiring fewer resources. However, while the anticipated benefits are attractive, the transformation to the required architecture is a complex change process involving many public and private organisations, heterogeneous technologies and changing legislation. Moreover, benefits have not always been fully realised for B2G reporting, as many legacies still exist from the days of paper-based forms. Implementing XBRL requires a change in the way a company maintains and uses its own financial, accounting and payroll information to satisfy the reporting requirements of various government agencies. SBR in the Netherlands is a frontrunner that took over three years before the conditions were in place for implementing XBRL; what is more, the transformation is still not complete. One of the delaying factors is that sharing information in XBRL is still a voluntary process. Moreover, there are still debates on what the role of external auditors will be in an XBRL world. Real-time reporting is going to need real time auditing or assurance. Whereas auditing each transaction as it happens is nearly impossible, auditing the processes and systems used to capture and report the information is not. Perhaps the recent announcement from the Dutch government that starting in 2013 government agencies can only receive XBRL based reports via the gateway, will speed up the adoption of XBRL by companies, accounting firms and software providers.

The eight CSFs presented in this policy paper encapsulate the first lessons learnt from the partial transformation to a lean government using XBRL in the Netherlands. The CSFs include the use of architecture as a stabilising force, business data reuse, shift of control tasks for simple data checks and functions to the businesses, restrictive yet flexible project management, positioning a cross-government policy initiative, emphasis on end-to-end security and allowing extensions of the taxonomy. CSFs are areas of activity that should receive constant attention from the management. CSFs do not offer 'silver bullets' or 'ready to use solutions' and might be difficult to realise in practice, since many contextual circumstances also influence the outcome. The CSFs provided in this paper are derived from G2B case study and focus on managing the transformation process, and do not cover issues regarding the design of the data, process and technology architectures. In other areas for lean government, other CSFs will likely play a role. The derivation and evaluation of complementary design CSFs for the data, process and technology architecture is one of the next steps in research. Since the paper derived the set of CSFs based on a single case study in the Netherlands, further research on extending and evaluating these CSFs is recommended.

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Authors

Nitesh Bharosa

Delft University of Technology

N.Bharosa@tudelft.nl

<http://www.epractice.eu/en/people/330321>

Niels de Winne

Delft University of Technology

c.p.i.dewinne@tudelft.nl

<http://www.epractice.eu/en/people/332406>

Remco van Wijk

Delft University of Technology

r.vanwijk@tudelft.nl

<http://www.epractice.eu/en/people/332401>

Marijn Janssen

Delft University of Technology

M.F.W.H.A.Janssen@tudelft.nl

<http://www.epractice.eu/en/people/15578>