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The Role of Trust in Government Control of Businesses

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Abstract

Governments have the responsibility to control whether businesses are compliant with regulations in various areas such as health, safety, security, tax and customs. Traditionally, this control is exercised in a command-and-control fashion: businesses provide data to the control agencies, and in addition these agencies perform inspections of the businesses. To reduce administrative burden, governments are investigating 'horizontal' governance models, built on the responsibility and participation of companies. The information needs of both companies and agencies are changing and trust is now playing a more prominent role. Appropriate information management, supported by IT systems helps the trust relation to evolve. The model of transitional stages of trust (Lewicki and Bunker) identifies information needs per trust level. In this paper we link 'horizontal' governance strategies with the trust levels of Lewicki and Bunker to identify information needs. Information needs determine requirements for enterprise information systems and eGovernment applications. We define hypotheses about the trust levels and information needs of 'horizontal' governance strategies. The hypotheses are evaluated in a case study of the system-based control approach of Dutch Tax and Customs Administration. We find that system-based control corresponds to knowledge-based trust, and that the information which must be gathered corresponds with both calculus-based and knowledge-based trust.

Keywords: Trust, Governance, Compliance, Information management

1 Introduction

Governments are challenged to respond to the demands of the modern global and dynamic society. Governments have the responsibility to make sure businesses are

compliant with regulations in various areas such as health, safety, security, tax and customs. Typically, this control is exercised in a command-and-control fashion, where businesses are required to provide loads of control data to the control agencies, and in addition these agencies also perform all kind of inspections and checks on the businesses. These controls have become such an administrative burden for the businesses that the European Commission has started an initiative to reduce the administrative burden by 25%. The public sector therefore explores new governance strategies and applies new technologies to interact with citizens and companies. Companies have already for a long time understood the importance of business IT alignment and apply this paradigm to enhance their business supply chain and explore new business strategies. How can information systems support governments in executing their governance strategies? Are there different information needs and do these lead to different IT system requirements?

In recent years governments are investigating new governance models that build on the responsibility and participation of companies. An example of a participative governance strategy that is currently explored by the Dutch Tax and Customs Administration (Dutch TCA) is system-based control. System-based control (formerly called 'horizontal monitoring') is a form of enforcement that is based on mutual cooperation and trust between taxpayer and tax administration (Gribnau, 2008; Kamerling, 2007). The aim is to enhance compliance of the taxpayer while at the same time achieving a more effective allocation of the Dutch TCA's resources. In system-based control a company receives more responsibilities and is expected to interpret the legislation and implement appropriate measures, and to provide evidence of its progress. The regulator must enforce compliance, by guiding the company and monitoring progress. Only when progress is inadequate, a sanction may be imposed. In practice, authorities often work with a certification scheme. Companies that are able to show that they are in control of their business processes and are compliant may apply for a certificate that will give them less supervision and a lower administrative burden. An example is the Authorized Economic Operator (AEO) regulation (European Commission, 2007). Companies that do not have a certificate will not receive these benefits and are under stricter control as they are perceived by Dutch TCA to be unable to reach a sufficient level of compliance.

System-based control affects the interaction and information exchange between companies and the regulator. In traditional command and control forms of governance there is a kind of *pull mechanism* from the regulator: it involves an active role of auditors to gather compliance information. Whereas nowadays most company data is stored in enterprise information systems, relevant customs data is often still supplied by companies as paper documents e.g. invoice, export declaration, certificate of origin etc. In system-based control a *push mechanism* is introduced: the company takes the initiative to make its own data available to the regulator. Because the regulator depends on the company for the quality of information, trust is essential, but trust has to be 'founded'. Information systems can play a crucial role in ensuring compliance to rules and regulations. For example, accounting standards are coded in ERP systems, and business processes are increasingly re-designed for compliance (Sadiq et al 2007; Lu et al 2009). Enterprise information systems and service oriented IT such as EPIC databases are a key enabling technology for the data push model (Baida, et al 2008). Since the information provision will now mainly be in the hands of the company, the

regulator has to trust that the companies assure the integrity of the information. Information integrity is defined as *representational faithfulness*: does the information correspond to the condition or subject matter being represented by the information (Boritz 2005). Integrity concerns both accuracy and completeness of the information and therefore timeliness too, as well as validity with respect to applicable rules and regulations (Boritz 2005). Information integrity can also be assured by the implementation of control measures, for example, access control, logging and monitoring, in the company's information system.

Trust plays a prominent role in these 'horizontal' governance relations, whereas traditional deterrence approaches are typically based on distrust (Ayres and Braithwaite 1992). An interesting model of the development of trust through various stages is provided by Lewicki and Bunker (1995). According to the model of stages of trust development, to ascend or strengthen trust levels requires different kinds of information to be exchanged. Each trust level is therefore connected to different information needs. If we can point out which trust level of the model of Lewicki and Bunker can be associated with system-based control, we can identify the information needs and define requirements for the information systems. Therefore, our first research question is:

Which trust level corresponds to system-based control?

If we analyze system-based control against the model of Lewicki and Bunker, we observe that system-based control requires a high level of trust. To arrive at this higher stage of trust, trust needs to develop between a company and regulator. Developing trust not only imposes behaviour requirements on the company's side but also on the regulator's side. One of the most important aspects that contribute to trust development is the information exchange between the parties. Information systems can support the building and maintenance of trust in the context of a regulatory relationship. Companies need to provide information on their whereabouts; regulators need to inform them about applicable laws and regulations. This observation leads to the following research question:

Which kinds of information need to be exchanged between government and business to support development of mutual trust in regulatory compliance?

To answer these questions we first analyze the new governance strategies (Section 2). What aspects characterise system-based control? What are the consequences for interaction and exchange of information between the parties? We then discuss the trust stages in more detail and try to map them to the governance styles. According to the mapping we derive hypotheses about the kind of information that needs to be exchanged to arrive at the corresponding trust level. We test our hypotheses in a case study about the system-based control approach of Dutch TCA (Section 3).

2 Background

2.1 From 'vertical' to 'horizontal' governance

The old governance approach of the Dutch TCA was a traditional command and control approach: rules were simply imposed. For customs procedures, companies needed to supply data, such as the paper-based documents accompanying each shipment. Physical inspections of shipments were performed by customs officers to verify the data. For taxes, companies need to do their yearly tax declaration to report their business results

of the previous year. Periodically, tax and customs officials would inspect companies in administrative audits for compliancy with tax regulations. If an official encountered a violation, a severe penalty or fine would be given. Violations that occurred up to 7 years ago, could still lead to sanctions when discovered by the officials. In the traditional setting Dutch TCA thus takes the lead. They are often the initiator of the interaction and enforce compliance of the company through a deterrence-based approach. Companies on the other hand play a rather passive role. There is little room for initiative and taking responsibility on their side.

Dutch TCA realized in the mid 80's that enforcing compliance through deterrence is not the only approach (Gribnau, 2008). Especially the fact that traditional 'vertical' governance is very labour-intensive and that the amount of international trade was growing very rapidly made them look for alternative governance strategies. Gradually they developed a governance approach with a more "horizontal" character: it is based on trust and cooperation, and requires an active participation of companies. Most companies can be seen as equals, who are willing to comply with the legislation, instead of subordinates which are untrustworthy by nature. For business reasons companies already implement all kinds of corporate governance and risk management frameworks and attach importance to corporate responsibility. The shift in perception from subordinates to equals requires a different governance strategy. A form of self regulation may be applied. In system-based control companies have to demonstrate to Dutch TCA that they are in control of their business activities. In return, customs keep their inspections to a minimum. Since the information is no longer collected by customs, a certain level of trust must exist. Dutch TCA must be able to trust companies that the information that they provide is a reliable depiction of reality. Customs therefore have to collect evidence to validate the trustworthiness assumption, before they engage in a 'horizontal' governance relation.

Besides transferring monitoring activities, system-based control also introduces aspects of cooperation and transparency between customs and companies. This means that companies must inform Dutch TCA about relevant developments in their business and immediately report any problems or errors. If Dutch TCA on the other hand notices any remarkable issues, they will first start a dialogue with the company, instead of immediately imposing a sanction. In cases of fraud and deliberately chosen illegal actions, the customs still have the power to impose (even more) severe penalties.

System-based control is not a Dutch invention. Similar approaches to regulatory compliance have developed elsewhere. In particular, there are various forms of self-regulation, in which companies in a specific sector are required to set and adhere to their own standards, controlled by a government agency (Rees 1988). A version of self-regulation in tax control, which has been documented extensively, is the Australian *responsive regulation* approach (Ayres and Braithwaite 1992). They also make a transition from deterrence to motivation and making it easier to be compliant.

2.2 Three stage model of trust in professional relationships

The concept of trust has been studied in various research fields (psychology, sociology, economics, philosophy, computer science, etc). Although the disciplines differ in their assumptions, definitions, and context in which trust is researched, there are some common elements. Trust is seen as the outcome of an interactive process between two

or more parties and is associated with uncertainty, (incomplete) information and expectations about the other party (Blomqvist, 1997). Trust is often seen as an interpersonal relation, but a person can also trust an institution, or even a machine or an intelligent software agent (Tan and Thoen, 2000).

Lewicki and Bunker (1995) developed a transitional model of trust to understand how trust in business relationships changes and evolves. The model also specifies how trust declines and how it may be repaired. Lewicki and Bunker approach trust from a social-psychological perspective. They define trust as: “a state involving confident positive expectations about another’s motives with respect to oneself in situations entailing risk” (Lewicki and Bunker, 1995). Although the model was originally meant to cover the behaviour of individuals, we argue that this perspective of trust is also appropriate for analyzing the interaction between customs auditors and representatives of businesses, in addition to the focus on trust as an institutional phenomenon (Zucker 1986), which is usually found in regulatory relationships. Institutional trust focuses on institutionalized mechanisms like certification and auditing. By contrast, the ‘horizontal’ governance approach focuses on the development of a relationship between government and business. Explicitly, a personalized approach is chosen, in order to involve top management in customs certification procedures and the setup of tax covenants. Personal aspects such as compliance attitude, competency, integrity and reputation of the management are important for Dutch TCA. In the relation there is a continuous interaction of high interdependence between customs and companies. Furthermore customs tries to strengthen the relation with companies through the assignment of client coordinators to large businesses to function as a well known and informed contact person at customs. Customs officials are trained to enhance their interpersonal skills to perform better according to the trust-based approach of Dutch TCA. The aspects interdependence and continuous interaction are normally perceived as low in interactions with institutions (Lewicki and Bunker, 1996).

Lewicki and Bunker (1995) identify three sequential stages of trust: *calculus-based trust*, *knowledge-based trust* and *identification-based trust*. Calculus-based trust is based on consistency of behaviour and involves a continuous evaluation by the actors of the punishment for violating the trust compared to the rewards for preserving it. Knowledge-based trust occurs when one has enough knowledge about the other party’s norms, motives and plans to understand them and predict their likely behaviour. Identification-based trust, the highest level, is based on identification with the others’ desires and intentions. Trust is maintained because of a mutual understanding and appreciation of each others’ wants. Mutual understanding has reached such a level that parties are able to act for each other. Since each stage has a different basis on which trust is built, the parties in the trust relation use different information in each stage to determine the validity of the trust relationship. For the relationship to evolve to the next stage, sufficient information that supports the validity of the perceived trust must be gathered. Table 1 summarizes the trust basis and information needs for each stage.

Stage of trust development	<i>Calculus-based</i>	<i>Knowledge-based</i>	<i>Identification-based</i>
Trust basis	Consistency of behaviour	Predictability of behaviour	Identification and understanding
Information needs to determine trust validity	<ul style="list-style-type: none"> •Number of violations •Frequency of violations •Sanctions •Benefits 	<ul style="list-style-type: none"> •Behaviour in various contexts •Problem solving strategies •Needs, preferences, priorities 	<ul style="list-style-type: none"> • Mutual understanding of each others' wants •Trust sustain requirements •Commonly shared values

Table 1: Trust basis and information needs for each trust stage

2.3 Information needs to enhance trust development

Traditional command and control approaches to governance assume untrustworthiness and are aimed at detailed information gathering. We argue this corresponds with calculus-based trust. Horizontal governance approaches assume some form of trust, as control tasks are delegated and the audit object is a company’s internal control system rather than the transaction data itself. The foundations of a company’s internal control system are its mission and strategy. Information is therefore gathered, which helps to predict the company’s future behaviour (e.g. plans, procedures, performance estimates), or to understand the underlying desires that influence behaviour and motivate decisions (mission, strategy, corporate culture, social values). These characteristics link system-based control to either knowledge-based or identification-based trust. Identification based-trust would be ideal for a regulator, as this level of trust will require the least amount of effort in operational audits. Identification-based trust presupposes the previous two stages, because commonly shared values and mutual understanding can only exist when actual behaviour is reliably compliant, and future behaviour is predictable. However, for regulatory relations, we think that it is impossible for a regulator and subject to interact only on a level of identification-based trust. Unlike in social relations, government decisions must be auditable and justified based on data that is linked to the lower trust levels.

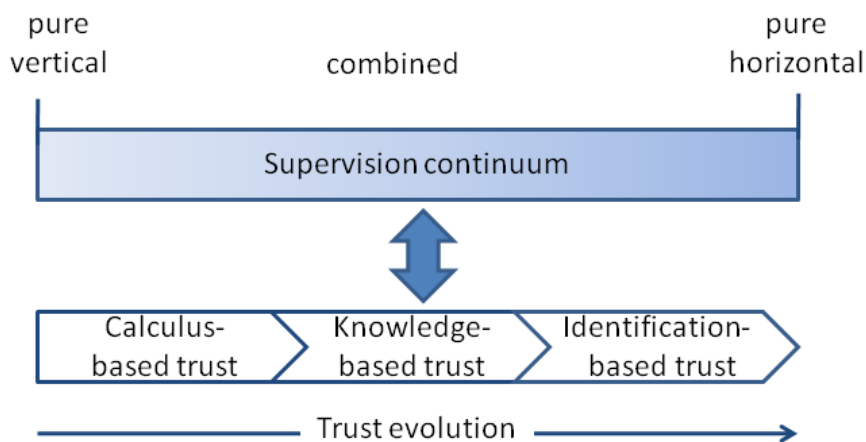


Figure 1: Governance strategies mapped onto trust development stages

Our first hypothesis therefore is:

H1: *System-based control corresponds to the level of knowledge-based trust.*

Knowledge-based trust requires that a partner's behaviour is consistent and predictable. Our second hypothesis is:

H2: *System-based control relies on information to predict future behaviour of a company; insight in a company's current behaviour is a prerequisite.*

In the next sections we describe a case study on system-based control of Dutch TCA and test our hypotheses.

3 Case study: system-based control in the Netherlands

We illustrate and validate our hypotheses by analyzing two specific applications of the system-based control approach of Dutch TCA, namely the tax control framework concerning corporate tax declarations (TCF), and the Dutch customs interpretation of the enforcement of European customs legislation concerning Authorized Economic Operators (AEO). In both cases, one of the requirements is a satisfactory information management system, which allows customs verifications. System-based control (formerly called "horizontal monitoring") is introduced as the compliance approach for tax audits concerning corporate taxes (Gribnau, 2008). Companies which have shown that they have a reliable 'tax control framework', may voluntarily enter into system-based control. This is an auditing approach based on a relationship of mutual trust and understanding. Consider the following text from the brochure issued by the tax office:

"Horizontal monitoring entails mutual trust between tax payer and the Tax and Customs Administration, indicating more clearly everyone's responsibilities and abilities in order to do what is right, as well as laying down and observing reciprocal agreements. Horizontal monitoring is in line with developments in society, where the individual responsibilities of corporate and government managers and administrators are defined more clearly and upheld through supervision. Businesses must be transparent for stakeholders about the degree to which they achieve operational targets and the extent to which they are in control of the processes involved. The government is an example of a stakeholder."(Visser,2008)

3.1 Data Collection

The case study is based on document analysis and a series of semi-structured interviews with experts from Dutch TCA, held in the period of May till November 2009. All experts were qualified chartered certified accountants and/or IT auditors. We studied the AEO certification procedure of a petrochemical company (PCC) and interviewed 6 experts on the tax control framework (TCF) and 4 experts on AEO certification. In total we conducted 5 interview sessions, interviewing two experts at the time, with an average duration of 3 hours. Meeting notes were verified by interview partners. In the acquired data we identified information needs and their corresponding trust levels (See Table 1). Intermediate results of the case study were validated in a one-day workshop with domain experts.

3.2 Case study findings

In this section we first discuss the general audit approach of Dutch TCA and then provide some detailed examples of changed interaction and information needs in system-based control.

The general idea of system-based control is that Dutch TCA relies as much as possible on the company's internal controls. A company's internal control system consist of various control measures, to provide reasonable assurance that predefined control objectives are achieved (COSO, 1992). Examples of control measures are: segregation of duties in workflow software, 4 eyes principle, and fiscal checks that are implemented in the IT system for financial administration. The audit layer model of Dutch Tax, used in system-based control, is shown in Figure 4. The model is nicknamed the 'onion model' because it represents auditing effort as consecutive layers which can be peeled off. The kernel is formed by the business processes. Reliability of the business processes is established by the internal control framework of the company. The internal controls are audited yearly by the external accountant of firms like Deloitte, Ernst & Young, KPMG, and PWC, as part of the financial audit. This means that the tax office now only has to assess reliability of the company's internal control framework, and external auditing, rather than having to establish reliability of the original records and business processes underlying the tax declarations. Only for specific tax issues do tax officers follow the traditional approach in which they visit the company to collect full evidence (pointed triangle). To facilitate 'meta-auditing', the company must provide information about business processes and internal controls. The tax officials in return can give the company more certainty, for instance that a tax declaration for a certain year is settled.

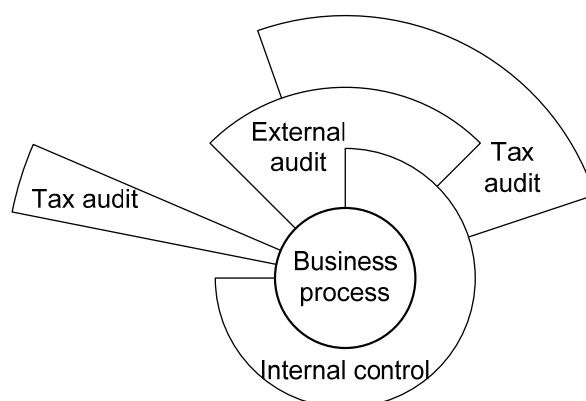


Figure 2: Audit layer model (Dutch Tax and Customs Administration)

Also for customs, the existence of a proper internal control framework contributes to more reliable information provision and thereby an increased safety of the supply chain. When a company's information processing is reliable, customs can reduce administrative inspections and rely on statistical auditing methods. For AEO legislation certification is used to make a distinction between (un)reliable companies and grant them a reduction of their administrative burden (European Commission, 2007).

Mutual trust and understanding may sound nice, but there are real changes in the way companies are being treated. Below we list a number of illustrative changes.

1. *Demonstrating to be 'in control'*. When entering into a horizontal monitoring relationship, the tax office must establish the reliability of the company's internal control framework. This forms the basis for their trust in the company's record keeping.

COSO provides a well known standard for setting up an internal control framework (COSO, 1992). The standard recommends: (1) a control environment where integrity and ethical values are supported from the top management throughout the organisation. (2) risk assessment is performed to identify and manage risks relevant to the organisation. (3) Control activities such as policies, procedures and processes are implemented to ensure a company carries out management directives. Examples include approvals, verifications, reconciliations, reviews of operating performance, security of assets and segregation of duties. (4) Relevant company data contained in the information system should be communicated in the organisation and to the relevant stakeholders. (5) Ongoing monitoring to assess the quality of a company's internal control systems.

In AEO certification, companies have to indicate explicitly, how their information systems support their internal control framework. They have to provide information on the extend of computerisation, the hardware and operating system, how control is implemented in the system, and how access control to applications and data is guaranteed. In addition, the company must show that the system is implemented effectively. To provide some guidance on 'effective implementation' customs refer to the COSO guidelines (COSO, 1992). The scores range from 0 "no control measures in place", 1 "internal control is ad hoc and unorganized", 2 "internal control has a structured approach", 3 "internal control is documented and known", 4 "internal control is subject to internal audits and evaluation" until 5 "internal control measures are integrated into the business processes and continuously evaluated". This scoring provides an indication of the maturity level of the company's self-controlling abilities.

Consider for example access control. Examples of the maturity levels are: 0) all employees have unlimited access, 1) passwords are needed to access the system, 2) there are personalized account-password combinations, 3) there is an active directory with rules governing access, 4) there is a monitored procedure to create and remove accounts, and 5) regular evaluations determine whether employees may only access the information they need to perform their tasks.

Another example of the role of information systems is that Dutch tax is currently cooperating with software vendors to develop applications that by design comply with the law. Reconciliation checks are built into the software, which will make it much harder for companies to perform illegal actions without being detected. In particular, for cashier software embedded in cash registers, the so called "training mode" in which transaction data can be deleted without trace, will be removed.

2. *No hunt for mistakes*. Under the tax control framework the tax office will not try and find as many mistakes as possible in a company's tax declaration; given the complexity of the legislation this is not difficult to do. It is counterproductive to confront a benevolent company year after year with mistakes. Instead the tax office will try to help companies avoiding such mistakes in the future. This involves clear communication about what is expected (behaviour) of a company. Companies and Dutch TCA study

errors to identify how they occur. Is the error a mere incident or is the error produced by a fault in the companies information system or reporting procedures?

3. *Communication about 'open norms'*. Another issue regards the interpretation of the tax code. The Dutch corporate tax – by design – contains some space for interpretation. The abstractness allows the law to be applicable under various circumstances and over a longer period of time. Companies are allowed to interpret the rules in their favour. However, grossly unreasonable interpretations are not considered acceptable. What is considered acceptable differs from case to case. Currently, this creates uncertainties for companies. Under the new tax control framework, companies may seek advice with their tax office, to find out in advance whether their interpretation is considered acceptable. Such advance information sharing can save both parties a lot of work.

4. *Up to date tax assurance*. In corporate taxes it is customary to audit retrospectively. A company can be fined for an error that occurred a few years ago. Resolving disputes is a long process resulting in high costs for both parties. In the tax control framework the company and the tax office agree to solve all historical issues when they start the relation. New issues are supposed to be identified by control systems and solved immediately in cooperation with Dutch TCA. Preventative and detective controls need to be implemented to prevent problems from arising and detect them when they do arise (Romney and Steinbart, 2009). A company no longer needs to worry about past tax issues and is assured that sanctions for historical violations will not be imposed.

3.3 Discussion

These examples show that a regulatory relation based on mutual trust and understanding imposes requirements on the interaction. We found that system-based control is associated with different information needs: emphasis on advice about the interpretation of open norms instead of norm violations, the production of new and timely data instead of historical data, information about the effective implementation of norms and control procedures. Such information needs correspond to the information needs defined for knowledge-based trust: behaviour in various contexts, problem solving strategies, needs, preferences, and priorities.

As part of the case study, we have looked at the internal auditing guidelines used by Dutch Tax to instruct auditors on the tax control framework (Visser,2008). It turns out that auditors are instructed to use evidence regarding decision making and implementation of decisions, in addition to the usual transaction-based evidence. To demonstrate compliance, evidence about the design, implementation and operational effectiveness of plans and procedures is needed. In practice this means that a company should provide tax auditors with detailed process descriptions, and evidence that the procedures are known and applied throughout the period being audited.

We now evaluate the hypotheses that we defined in section 3.

H1: *System-based control corresponds with the level of knowledge-based trust.*

We found that system-based control is based on “organized trust” that builds on the internal control system of a company. Dutch TCA gathers information on the design, implementation and operational effectiveness the internal control system in determining a company’s compliance with tax laws. This resembles the information needs of knowledge based-trust as the focus is on the predictability of behaviour. We also find

that Dutch TCA still gathers detailed information on tax specific issues (number of violations) that are not tackled by the internal control system. Furthermore, we observe a lot of emphasis on the control environment and the need for ethical values expressed by management. This is more in line with identification-based trust, where commonly shared values are emphasised. We therefore conclude that system-based control in general corresponds with knowledge based-trust, but has some elements of calculus and identification-based trust. The interviewees agree with this conclusion as they envision a kind of “identification-based” trust, but in daily practice they encounter that information on the consistency and predictability of behaviour is gathered. We consider H1 to be confirmed.

H2: *System-based control relies on information to predict future behaviour of a company; insight in a company’s current behaviour is a prerequisite.*

We found that in system-based control, insight in a company’s control framework aids Dutch TCA in determining a company’s future compliant behaviour. Companies that have a good internal control framework are seen as trustworthy partners that are able of some form of self control on their behaviour. Nevertheless, our interviewees stress that they only engage in system-based control when a company’s current and past behaviour supports that they are reliable. We see that Dutch TCA collects information about their previous experiences with companies, and uses these to construct client profiles. These client profiles are used in the assessment procedure to enter system-based control. We therefore confirm H2.

4 Conclusions

Lewicki and Bunker’s (1995) model of transitional stages of trust was developed to analyze the development of personal trust relationships. We argue that it also provides valuable insights in the role of trust in business-government relationships, in addition to the usual focus on institutional trust. The three trust levels, calculus-based trust, knowledge-based and identification-based trust, determine different kinds of information needs. The model provides examples of information needs (number of violations, problem solving strategies, commonly shared values) that can be used to determine the trust level in a relationship. Governance strategies (vertical vs horizontal) can be associated with a certain trust level, to determine the corresponding information needs. Such information needs help to determine both functional and non-functional requirements for enterprise information systems and eGovernment applications.

In this paper we have investigated whether such a mapping of trust levels onto governance strategies makes sense, on the basis of a case study of two instances of the system-based control approach used by Dutch Tax and Customs Administration for auditing corporate taxes (tax control framework) and for auditing safety and security of the supply chain (AEO). Our first hypothesis, that system-based control corresponds to knowledge-based trust, is largely confirmed. The information needs of system-based control on procedures, control systems, correspond to those of knowledge-based trust (predictability of behaviour), although we also find that customs still collect transaction-based data, suggesting calculus-based trust (consistency of behaviour), and put a lot of emphasis on ‘tone at the top’ and ethical values, which suggests identification-based trust. Our second hypothesis, that system-based control mainly relies on information about future behaviour, is also confirmed. System-based control relies on evidence of

the design, implementation and operating effectiveness of the company's internal control system, which largely constrains a company's future behaviour.

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