8th month paper

Title:	**Governance Regimes, Uncertainty, and Problem-Solving Capacity: Public-Private Partnerships in Dutch Vocational Education**

Author:	**Pieter Moerman**
Date:	**4-1-2017**

Governance Regimes, Uncertainty, and Problem-Solving Capacity: Public-Private Partnerships in Dutch Vocational Education

Frequently used governance methods in education fail when facing areas in which precise policy goals and methods of achieving them cannot be determined ex ante, but must instead be discovered in the course of problem solving. Uncertainty caused by rapid innovation and cooperation between organisations has a consequence that governance - such as standardized bureaucracy or new public management (NPM) - has become obsolete. This study follows a large project in Dutch vocational and higher education where Centres of Expertise and Centres of Innovative Craftsmanship have been developed as public-private partnerships between schools and companies, aimed to make education more demand-driven, cooperative and innovative. Since 2011, three distinct governance regimes have been in effect that have both principal-agent and more learning-oriented governance characteristics. The research question focuses on the effect of the governance regimes on whether Centres are successful in the course of problem solving. It is hypothesised that traditional principal-agent models are counterproductive when facing uncertainty caused by rapid innovation and intertwinement between organisations. The second hypothesis is that more learning-oriented governance characteristics - that focus on the learning process, room for experimentation, and (controlled) trial and error - might be a better approach to support the development of Centres. Results of this study give insight in the actual effect of the governance characteristics and might provide lessons for other (semi-)public sectors that face similar uncertainty caused by rapid innovation and the need to cooperate between various organisations (such as education, health care).

Introduction – guiding a paradigm shift in education

Vocational Education and Training (VET) institutions and Universities of Applied Science (UAS)[1] are increasingly expected to fulfil an active role in the knowledge economy. Societal and technological developments widen the gap between education and the labour market, and emphasise the need for educational institutions to constantly adapt and respond. Policy makers following triple-helix theory (i.e. Leyesdorff, 2012) argue that education has a crucial role in the functioning of a knowledge-based economy (i.e. WRR 2013; AWTI 2014; Onderwijsraad 2005, 2014). In this theory, there is a shift from a dominating industry-government relationship towards a triadic relationship between education institutions, industry and government.

Less abstractly, this means that education institutions increasingly play a role in the competitiveness and development of a region. Schools are expected to fulfil this role as an extension of their primary task to prepare students for entrance into the labour market, for example through life-long learning activities and knowledge circulation (WRR, 2013; SER, 2016). From the student's perspective, this means familiarity with state-of-the-art technologies, participating in innovative projects with business and researchers, and acquiring multidisciplinary skills. From the business perspective, business models are rapidly changing because of new technologies, emphasizing the

---

[1] VET institutions provide EQF levels 2 through 4, whilst UAS institutions provide EQF level 6. Level 5 is being developed in associate degrees but are still very scarce (hence also a part of the project of Centres).

necessity for knowledge circulation and acquisition to remain competitive. Triple-helix theory argues that cooperation with education institutions can be essential to acquire knowledge. A theory embraced by both the Ministry of education and Ministry of economic affairs in recent policy documents (Ministry of education, 2015, 2016; Ministry of economic affairs, 2015).

In 2011 – at the start of the project investigated in this research – the facts pointed in an opposite direction. Life-long learning activities of VET/UAS have actually decreased over the years. For example, since the beginning of this century, the inflow of part-time students has dropped from 19.000 in 2001 to 8.000 in 2012 (Government advisory committee on life-long learning, 2014). The same trend is visible in private expenditure in education, showing a decline in total revenues in vocational education from 10.8% to 8.5% in the period 2009-2013 (Education inspectorate, 2015). In 2011, several projects have started to stimulate Dutch VET and UAS institutions to reach the aforementioned goals by stimulating so-called Centres of expertise and Centres of innovative craftsmanship, creating 133 public-private partnerships (up until December 2016) with a total government investment of 221 million euros (2011-2016) (Katapult, 2016).

This research focuses on the question how well equipped the governance framework of the VET/UAS is in order to guide these Centres into their (new) roles in the knowledge economy. It questions the way that current governance regimes operate, especially whether or not it they are able to deal with the fact that the precise policy goals are unknown as well as the way to reach these goals. This strategic uncertainty brings a need for experimentation and learning. In this research, the governance relationships are investigated from the hypothesis that traditional bureaucratic and new public management models are not equipped to deal with this need for experimentation and learning (these concepts will be elaborated on in the theoretical chapter). Novel governance methods that were introduced during the development of the Centres – such as peer learning and controlled trial and error – might be better suited to these challenges.

This paper has the following structure. First, challenges with the governance of the Centres-project are described, outlining why Centres face uncertainty caused by rapid innovation and intertwinement between organisations. Second, the theoretical framework is presented, stipulating governance responses to uncertainty. Third, the problem statement is reformulated in a research question and methodology is presented. Finally, some first results are presented as an exercise to validate whether the available data and methodology is sufficient to answer the research question.

The project: Centres of expertise and Centres of innovative crafsmanship
The research focuses on a policy project in which Centres of expertise (UAS) and Centres for innovative craftsmanship (VET) have been developed[2]. Centres are a cooperation between a UAS or VET institution and several businesses, often supported by regional governments. The goal of these Centres is to contribute to the human capital in a specific economic sector. For example, the Centre of Expertise on Water Technology is aimed at 'strengthen the knowledge economy in water

---

[2] See appendix III for an extensive overview of the concept development.

technology'[3]. The Centres are often focused on technology-intensive sectors (or cross-sectoral themes like health care and technology), as the shortage of human capital in these markets is still one of the weak spots in the Netherlands' competitiveness (World Economic Forum, 2016). The cooperation is aimed at better education (skills, number of students, curricular improvements, etc.), stimulating life-long learning in the participating businesses (courses, trainings, etc.), and practice-based research and innovation (innovation projects, valorisation, start-ups, etc.). They form a cooperative venture to reach goals each of the partners cannot achieve alone.

The characteristics of a Centre are different from those of VET/UAS institutions in two respects. First, the Centre consists of both public and private partners that both have a responsibility in reaching their goals. This means a Centre functions per definition as a network, organized in various forms (from loose informal networks to formalized joint ventures). These Centres can be defined as a PPP: a "*more or less sustainable cooperation between public and private actors in which joint products and/or services are developed and in which risks, costs and profits are shared*" (Klijn 2010). A VET/UAS institution as the most important partner in the PPP is - in contrast - solely responsible for providing education and has a direct relationship with the national government.

Second, Centres are inherently demand-driven, as they are expected to contribute to a specific (economic) sector. This means they are market-focused and activities by the Centre are influenced by the coordination between participating partners, based on the demands of participating businesses, students, and teachers/researchers. Centres continuously need to innovate while renewing their knowledge and practices due to rapid technological and social changes. By contrast, VET/UAS institutions are mostly supply-driven as they have the legal task to offer a variety of education programs and educate students towards a well-defined qualification. Thus, one can see the speed at which the Centres can incorporate new technology and respond to market innovations, while the VET/UAS system is much slower to innovate.

The first reviews of the Centres are positive, as the programme clearly 'meets a need' and the participating actors are very enthusiastic (Review Committee, 2014). However, evidence indicates there is still much work to be done (Review Committee, 2014, 2016; Van Staalduinen et al., 2014). The shift from an internally oriented VET/UAS institution towards external public-private partnerships (PPPs) takes time and demands dedicated resources, according to the reviews, as the challenges are considerable.

Reviewing the various reports on Centres, the main challenges whilst developing these institutions can be summarized using the following categories (Van der Touw Committee, 2013; Review Committee, 2014, 2016; Van Staalduinen et al., 2014, 2017 forthcoming):

> *1) Prioritization and sense of urgency:* Firstly, most companies are convinced about the potential added value of the Centres, but are still reluctant to invest. Various reasons are

---

[3] Website Centre of expertise Water Technology, accessed 4-5-2016

given, e.g., the return on investment is not high enough, there is a lack of confidence in the VET/UAS institution, the company expects the government to pay, etc. Within VET/UAS institutions, some argue that they should only focus on the basic quality of the education rather than life-long learning or innovative projects. Likewise, teachers within the institutions can be reluctant to let 'outsiders in'.

2) Uncertainty about the route to follow: The Centres can also choose their own goals and methods, as the overarching goals are open-ended. There is no blueprint and proven best practices are limited. This means that there is uncertainty about what route to take. For example, should the PPP be a legal entity, what are the priorities of the Centre, how to convince companies to invest, how should 'better' education be defined?, etc.

3) Culture differences: Thirdly, there are major cultural differences between employees of an educational institution and employees from the business partners. These differences include focus, aims, and time horizon. For example, the education institution works with a yearly schedule, whilst smaller companies expect activities to be completed by the end of the month.

4) Legal and fiscal barriers: Finally, there are legal and fiscal barriers to overcome. Prominent examples are VAT, internal accounting rules, nationwide qualifications with too little room for regional variance, etc. All Centres report that there is not enough leeway to experiment, because of these current regulations. Often this is caused by the *interpretation of rules* rather than the rules themselves, as the Van der Touw Committee stated.

Rapid innovation and intertwinement between organizations
The problems Centres experience typically relate to uncertainty caused by rapid innovation and increasing intertwinement between organizations (Koppenjan and Klijn, 2004), and has been a topic of many policy reports in the past few years (WRR 2013; AWTI 2014; Onderwijsraad 2005, 2014; SER 2016). The overarching policy problem is the effects of technological and societal innovations on the economy and society. For example, how should we respond to new business models such as well-known examples as Uber and Airbnb? Or what happens when the trend continues towards an increasingly self-employed labour force?

There are no easy answers for these types of problems, also often called wicked problems (Klijn and Koppenjan, 2004). Wicked problems are hard or impossible to solve because of complex interdependencies that are difficult to recognise. These types of challenges play a dominant role in Centres. For example, the aforementioned Water Technology Centre's main goal is "strengthen the knowledge economy in water technology'. Rapid technological innovation radically transforms both the business models of companies in these sectors, as well as the required human capital to stay competitive. For example, personnel in these companies need to have the state-of-the-art knowledge and IT-skills. The public-private partnership aims to formulate goals and activities to help solve these challenges. Which goes far beyond updating the curriculum, something for which an education institution is solely responsible.

In the PPP, partners coordinate their activities to achieve goals they cannot achieve on their own. Increasingly, strategic alliances are established to share and circulate knowledge and spread risk. Often, PPPs fail as a result of cultural and legal barriers, which are often considerable.

Problem statement: Is the governance regime compatible?
The Van der Touw Committee (2013), appointed by the Ministry of Education, investigated the challenges faced by the Centres, emphasizing the problem of uncertainty. The committee argued that Centres should have more 'room for development', introducing a governance regime to give room for innovations that might not fall within the current legal framework. In addition, the Government Advisory Committee on Life-long Learning came to a similar conclusion (2014: 27). Although the Minister of Education was charmed by the idea and promised the House of Representatives of The Netherlands to implement this system (Ministry of Education, 2013), this action has not yet come to pass. On the contrary, it appears the rules on public-private activities in VET/UAS institutions have recently been tightened up (Ministry of Education, 2015). Something which is difficult to understand, when reviewing policy initiatives such as Centres, the Technology Pact and Care Pact[4], where public-private collisions are encouraged and these interactions are considered as the essential ingredient for a 'learning economy' (see i.e. Leijdesdorff, 2012; WRR 2013; AWTI 2014).

In this study, the central question is what effect the governance regime has on tackling the challenges of rapid innovation (requiring a demand-driven approach) and intertwinement of organizations (requiring network cooperation). The question is whether or not the various governance regimes involved in guiding the Centres have adjusted to this new situation, which might causes Centres not to reach their intended goals. This means that the governance is not equipped to deal with the challenges faced by education institutions and other partners in the Centres.

Table 1: Comparison between key characteristics of education institutions and Centres as public-private partnerships

VET / UAS institution	Centres
Solely responsible to reach goals set by government, direct relationship	Network cooperation to reach self-assigned goals, goals are influenced by government
Essentially supply-driven Provide education at a pre-set qualification levels, rules and procedures established by national government to ensure quality.	Essentially demand driven Provide activities that network partners want, that may or may not fall within government rules and procedures.

---

[4] See for example the progress report Technology Pact
(https://www.tweedekamer.nl/downloads/document?id=86f3dab3-abb5-45d3-b7bf-dde8fd54d118&title=Voortgangsrapportage%20Nationaal%20Techniekpact%202020.pdf)

First, the need for a governance regime adapted to networks collides with the dominant direct relationship between the school and government. For example, the Ministry of education directly funds the schools to create a PPP, whilst holding the schools solely responsible for achieving the goals. Additionally, it requires schools to stay within the rules and procedures of the ministry of Education, whilst on the other hand stimulating the PPP to take a demand-driven approach.

Second, the challenges of rapid innovation that call for a demand-driven approach collide with the supply-driven, more fixed and stable approach to which schools are accustomed. The governance framework is equipped to create a stable outcome, for example by reviewing whether students receive a certain amount of hours at school, and reviewing whether the content of the education programme reflects the pre-set qualifications. This is hard to match with the speed of innovation, where for example innovative projects sometimes require multidisciplinary skills that are not included in the pre-set qualifications.

These problems are known, as many policy reports of the Ministry of Education emphasize the need of education institutions to be demand-driven and responsive (most prominently: Ministry of Education, 2015). However, the possibility that there might be a problem with governance is flat out denied: the ministry increasingly argues that current rules and procedures provide more than enough room to be responsive and demand-driven, and complaints of PPPs are because these PPPs are not courageous enough to use the room provided by the current guidelines.

Table 2: main policy arguments whether the governance regime is equipped to deal with Centres

Governance regimes have not yet adjusted to the challenges faced by Centres	
Arguments in favor	**Arguments against**
Current rules and procedures imply a blueprint and limit the possibilities for new activities.	Current rules and procedures provide enough room for the new activities.
The government only holds the schools accountable, forgetting the other partners in the partnership that together established the goals and activities. There is a mutual responsibility.	The main task of a PPP is education, schools are primarily responsible; other partners can contribute to education. Activities outside the education framework are 'nice to haves'.
The activities within a PPP are experimental and need to be developed. Current governance regimes expect the outcome to be known beforehand, which does not work.	The quality of education needs to be constant all the time. New activities should have safeguards to ensure quality, even if this limits the room for experimentation.

Governance regimes of Centres of Expertise and Centres of Innovative craftmanship
Three distinctive governance regimes are in place guiding the Centres, building upon traditional
governance models with strong principal-agent (PA) characteristics. A principal-agent relationship
is an arrangement in which one entity (the principal) legally appoints another to act on its behalf
(the agent). In this governance model, the rules and guidelines that the agent should follow are
established in a law or regulation. Elements of both bureaucracy and new public management can
be distinguished. Here, bureaucracy refers to steering of the principal by means of legislation,
prohibitions, and regulations (Weber, 1948/2001), whilst new public management refers to
steering by means of a strict separation of policy-making and execution, for example through a
performance contract (Klijn, 2012).

However, each of the models also encompass new elements that meet the policy evaluation (Van
der Touw, 2013), advocating a need for experimentation, 'room for development', learning
programs and network steering as to guide the Centres in their development. This reflects
acknowledgement of the fact that the principal-agent relationship is not always so clear: it is for the
principal unknown what kind of prohibitions or regulations it should set to reach its intended
targets, and also unknown how to define the expected performance of a school.

There are three different governance regimes in place across the successive waves of Centres,
leading to a total of 133 Centres, spread over VET/UAS (60%-40%), different economic sectors
(with a majority in tech) and different parts of the country.

1) Platform of Science and Technology (PST), 2010-2017. Originally began in the tradition of
   new public management (NPM), where each Centre had a performance contract monitored
   yearly by an independent committee. Centres could formulate their own performance
   indicators, grants (on top of the regular lump sum budget of schools) are continued based
   on the progress of the performance indicators. The performance indicators are sometimes
   quantitative, but there are also process indicators (such as the legal form of the PPP).
   Additionally, there is a mandatory learning program. PST governance changed over the
   years towards a 'collective learning model': *"The education sector has a culture in which
   people are used to receiving grants and to account on a predetermined set of activities. This is
   counterproductive to the innovative Centres, as the pilot showed. Centres have no established
   set of activities or blue print. In fact; even the objectives change in the course of the
   development to make the Centre successful. Often, only the shared vision of the partners holds
   and the development just as capricious as a start-up in business"* (Audit Report 2013,
   translated).

2) Review Committee Higher Education and Research (RCHO), 2012-2016. Began as part of the
   experiment with performance agreements in higher education, the RCHO is responsible for
   reviewing the performances of all universities and UAS institutions against a agreed
   performance contract (in total 7% of the lump sum budget). This experiment has strong
   NPM roots with a fixed set of indicators. Centres are part of these performance agreements
   (1% of the lump sum budget), although with a different approach: there are no fixed

indicators, except for co-financing of businesses. Also, the RCHO acknowledged at the start that although all Centres are striving for a similar goal (a self-sustaining public partnership), each Centre is different in their development path (assessment framework Centres of expertise, 2012). During the years, the Review Committee characterised its role as a 'critical friend', because of criticism of the NPM characteristics of the model. Additionally, there is a voluntary learning program, offered by PST.

3) Agency responsible for grants to education institutions (DUS-I[5]), 2014-2020. DUS-I is part of a large executing agency of the ministry of education, responsible for example student loans and the lump sum budget. The grants were awarded on the basis of an approved activity plan, which is reported on annually. The full budget is awarded beforehand, based on the specified activities by the Centre. This governance regime has bureaucratic features, as each Centre is monitored specifically on whether or not it executes the specified activities rather than performance indicators or agreed goals. Additionally, there is a voluntary learning program, offered by PST.

Finally, there are Centres that began without additional government funding. The governance here is dependent on the funding source of each of these Centres: for example the school or a local government. Usually, grants are awarded for specific activities (equivalent to the DUS-I variant).

There is no additional room for experimentation, so each of the Centres needs to stay within the limits of the subsequent educations laws. In recognition of the fact that Centres are still developing, the government funds a learning program, offering expert meetings, workshops, online documentation, SWOT- and peer reviews, open for all funded Centres.

Table 3: summary of governance regimes and number of cases

Name, N=?	Keywords
PST, 18 centres	Monitoring of performance contracts, moved to 'collective learning', additional grant, participation in learning program
RCHO, 16 centres	Monitoring of relative progress, critical friend, percentage of lump sum budget, part of experimental performance agreements, voluntary participation in learning program
DUS-I, 16 centres (only 2014 tranche)	Activity plans, grant for specific activities (deviation needs to be reported), monitoring on progress of activities (not results), voluntary participation in learning program

---

[5] Dienst Uitvoering Subsidies aan Instellingen

2. Theoretical framework: Governance responses in VET/UAS

Because there is no overarching governance framework, the various Centres experience different governance frameworks that respond differently to the challenges of rapid innovation and intertwinement of organisations. The following theoretical framework describes these four different ideal governance types and shows the way they respond to challenges of rapid innovation and intertwinement of organizations.

Standardized bureaucracy
In a standardized bureaucracy, the government steers by means of legislation, prohibitions, and regulations (Weber, 1948/2001; Olsen, 2004). This implies a 'command-control' mechanism, where targets are translated into law by policy makers. The government creates - based on the targets - specialized regulations and legislation to guide the executive agencies. Therefore, the executive agency is responsible for carrying out these rules but not for reaching the targets. In a standardized bureaucracy, there is a tendency to incorporate the problem of uncertainty in existing rules and guidelines. Here, the government seeks a solution for the reported problem and implements this in regulation: the government is the main responsible actor to solve the problem of uncertainty. An example in VET are the guidelines that every student should have at least 800 'contact hours', which is a typical 'standardized bureaucracy' response to critical reports that students did not have enough lessons.

The biggest challenge facing this governance mechanism is the 'street level bureaucrat': the extent to which agents (in this case: teachers) enforce the rules and laws assigned to them vary widely and control mechanisms ('stick and carrot') can never be fully implemented (Lipsky, 1979). In the above-mentioned example, schools forced students to be at school without any lessons ('ophokuren'), to reach the target of 800 hours. This is a typical street-level bureaucracy response, where the aim of the policy maker (more lessons) is not reached. The Ministry of Education then made it possible to deviate from the 800 hours norm, under the principle 'comply or explain'. This can be interpreted as a form of a 'waiver', where certain schools are exempted from the regulation. This leads to a situation where rules and practice are far away from each other, bridged by these exemptions.

New public management
The second type of governance is based on a strict separation of policy-making and execution. The idea is that the execution of government policies will be more effective and efficient, because the agent knows best how to execute them (Klijn, 2012). Within a performance contract between agent and principal, targets and corresponding indicators are set. Depending on the results, the agent is rewarded or punished. In higher education, steering by performance indicators has recently been introduced, and has been an increasingly dominant governance mechanism - both from a national government perspective and within UAS institutions themselves. In a recent experiment, every UAS institution has a performance contract with the Ministry that accounts for 7% of the total budget.

The main pitfall of NPM is the fact that education - and 'soft' issues in general - are hard to translate into performance indicators. For example, there are numerous debates on how to measure the quality of education or the quality of a UAS institution. NPM reacts to uncertainty by separating and delegating implementation to separate organizations (Koppenjan and Klijn, 2005: 101). For example, for the performance indicators mentioned above, a new 'Review Committee' has been introduced, in addition to already existing organisations. This reaction creates two risks: firstly, competition between the separated organizations (and thus targets) can arise. For example, these organisations review the same kind of indicators, but have different definitions. Secondly, goals that are not specifically targeted receive less attention. This especially goes for soft indicators like 'bildung' that are practically impossible to translate into indicators.

Conclusion: top-down steering in uncertainty
Both standardized bureaucracy and NPM have a similar reaction to uncertainty caused by rapid innovation and intertwinement between organisations (Koppenjan and Klijn, 2004: 106-107). Both systems attempt to meet the challenges by using top-down control. The first does this by specifying regulations and targets on a 'street level', whilst the latter does this by specifying goals and output indicators and delegating responsibility to decentralized actors. These similar responses to uncertainty relate to the principal-agent relationship. Both in a standardized bureaucracy and NPM, the principal sets targets or guidelines, expecting the agent to properly execute these requirements.

But what if the agent does not know how to reach the goals? For example, there may be contradicting or complex policy goals (Sabel, 2012), so then what? And what if the agents differ - for example, because of their regional context - so that the guidelines work out differently for every agent? Or, because of the complex characteristics of rapid innovation and intertwinement, what happens if it is easy for the agent to display window-dressing behaviour - making the results of the agent appear deceptively favorable. And what happens if the goals in a performance contract do not reflect reality, but the principal is unable to change it or the agent unwilling to report this.

Network governance
Network governance, in contrast to bureaucratic structures, refers to an organic or informal social system that is better suited to solving complex cooperation problems that span organizational boundaries. Klijn (2008: 506) argues that governments "have become more dependent on societal actors to achieve their goals because of the increasing complexity of the challenges they face ... It is only through collaborative action that societal policy problems can be resolved". Therefore, governance networks - with both governmental, societal and market actors - become increasingly important when solving complex problems. Network governance sees operationally autonomous actors interact through negotiations and is self-regulating within limits set by external forces (Torfing, 2005). Higher education reform in the Netherlands in the 1990s has been characterized by many aspects of network governance, and labelled 'steering at a distance' (Kickert, 2005). Also, numerous additional grant programmes - like those for early school dropouts and science and technology, use network approaches. These governance networks mostly operate 'in the shadow' of hierarchical governance mechanisms (Scharpf, 1994), such as the bureaucratic or NPM systems.

The response to uncertainty is fundamentally different compared to principal-agent governance. Within network governance, Klijn and Koppenjan (2004) argue, there is an emphasis on learning processes between parties and goal entanglement between stakeholders. There is no command-control structure, coordination between stakeholders is based on horizontal types of steering. An example of network governance in higher education is the VKO (validation practice-based research), where UAS institutions have a system of self-regulation to ensure basic quality of their research. This takes place within the regulatory boundaries set by the Ministry of Education.

Experimentalist governance
Experimentalism is a structured way of learning from diversity, and thereby gives structure to the fluid practices of network governance (Sabel and Zeitlin, 2012). Network governance is theoretically considered as effective, but in practise often remains vague and unreachable (Klijn and Koppenjan, 2004). In experimentalism, network principles – such as peer learning – are used in an iterative cycle that also involves central government and key stakeholders. Essentially, it reframes the role of the principal and agent, where the principal is no longer merely responsible for setting standards/targets and monitoring results, but has an active role to support the executive agents. Similarly, the learning cycle is completed as executive agents also have an active role in defining standards/targets. Compared to network governance, there is a clear route on how to implement experimentalism, as it contains various well-described steps.

The response to uncertainty in experimentalism is comparable with network governance as it focuses on improvement though learning. It differs in this respect because the roles of the various actors are clearly described in an iterative process of monitoring and learning. Experimentalism emphasizes the problem of structural obstacles ('deep-seated features of institutions') to reform, which, in network governance often lead to failure, as there are no penalties or other destabilising mechanisms. Experimentalist reforms emphasize the need to create a space for *local innovation*, as these effects can move horizontally and upwards. Rather than formal power sharing at the institutional level, it is more useful to delegate decision making powers to the local level (Sabel and Zeitlin, 2012: 180).

Table 4: summery of governance types by characteristics and responses to uncertainty

Type	Characteristics	Deals with uncertainty by:
Standardized bureaucracy	Command-control, regulations, standards and monitoring	Implementing new standards or changing old standards.
New Public Management	Separation between execution and goal setting, performance indicators	Re-visiting performance indicators, introduce new indicators.
Network governance	Focus on horizontal relations, goal entanglement	Emphasizes learning and intertwinement between actors

Experimentalist governance	Goal setting and revision based on learning from diversity	Controlled iterative and recursive learning process between actors, based on comparative review of implementation experience

Conclusion: the influence of governance

The dominant governance type in theory is influential for the way rapid innovation and intertwinement between organisations are handled. Whereas both standardized bureaucracy and NPM are aimed at central steering and control, network governance and experimentalist governance are aimed at the learning process. In practice, these governance types often work simultaneously: network governance often works in the shadow of the standardized bureaucracy. It is theorised that these different approaches also influence the outcomes, therefore influencing the extent to which Centres can reach their goals.

Problem statement and research question

This research proposal started by formulating the question of how well-equipped the governance framework of the VET/UAS is to guide Centres into their (new) role in the knowledge economy. The implemented governance models are derived from traditional principal-agent models, but have all taken (some) steps to include learning-oriented features.

Essentially, the models include the principal (the ministry or executive agency) to set targets or guidelines, expecting the agent (the school) to properly execute these requirements. Monitoring is primarily aimed at reviewing whether the targets or guidelines are achieved. Both the PST and Review Committee model began from an NPM perspective, rewarding achievements based on performance indicators. The DUS-I model began from a bureaucratic perspective, awarding a grant for specified activities with strict rules and procedures about spending the money.

Interestingly, each of these models changed as a response to the failure of the traditional principal-agent models. PST argues their model has changed towards a 'collective learning model', because grants for a predetermined set of activities have proved to be counterproductive to the innovative Centres. The formal RCHO-model seems to have a strict NPM-approach, but in practise adopted a 'critical friend' approach. The DUO model however does not appear to have any deviations from the bureaucratic perspective. Finally, the ministry implemented a Centre-wide learning program, to help Centres. In the next sections, these changes will be elaborated on.

Recapping the problems experienced with Centres caused by rapid innovation and increasing intertwinement between organizations, the question is whether these developments have made the governance regimes more or less well-equipped to deal with the challenges. This question can be formulated as the following research question: "*how well equipped is the governance framework of PPPs developed by Dutch VET and UAS to cope with the challenges caused by rapid innovation and increasing intertwinement between organizations?*"

The following sub-questions are relevant:
  a) To what extent have the problems of the Centres in Dutch VET/UAS been caused by principal-agent features of their governance?
  b) To what extent have subsequent developments in the governance of existing and new Centres moved away from principal-agent models towards a more network and/or experimentalist governance framework?
  c) What have been the effects (both positive and negative) on the operations and performance of the Centres of such shifts in their governance?
  d) Could a more far-reaching reorganization of the Centres along experimentalist governance lines be expected to enhance their capacity to cope with rising uncertainty?

Methodology
To answer the research question, it is necessary to track deviations in performance (both positive and negative) and relate them to the governance regime. This leads to the following two hypotheses for subquestions 1 and 3 and 4:
1. The operation and performance of Centres can be related to their governance regimes;
2. The reorganisation of the governance of Centres enhances their ability to cope with rising uncertainty.

To test hypotheses 1, the effects of the governance regimes have to be traced back to the performance of Centres. From the perspective of uncertainty, does the governance regime (independent variable) influence the operations and performance of Centres (dependent variable)? This means that the actual development needs to be followed over the course of time, as this allows to track deviations in the development path, which can then be related (or not) with interventions of the governance.

As there are many aspects that influence the operations and performance of the Centre, the research methodology combines quantitative and qualitative aspects. In a nutshell: the performance and operations of Centres are measured quantitatively over time, as to investigate interesting deviations in their development path. This analysis is aimed to uncover interesting patterns, such as a difference in activities depending on the governance framework, an underperformance on certain activities or the extent to which Centres adapt their activities. These patterns are then qualitatively analysed based on twelve case studies whether the performance and operations were influenced by the governance intervention.

Quantitative analysis: performance and operation of Centres
First, to assess overall performance, an objective framework of indicators is formulated. This includes indicators based on the overall goals of the Centres, such as the amount of funding from businesses, the number of students and teachers participating in the activity of the Centre. There are some limitations and considerations to take into account using this framework. (a) The start year of Centres differs, the latest measurement therefore reflects various years of development (3-6 years). However, also relatively recently started Centres are important to take into account, as these are from the bureaucratic governance regime. (b) A higher number on certain indicators does not necessarily reflect better performance. For example, some Centres purposefully choose for an intensive program with a limited number of students, whilst other Centres choose to offer a large number of students a minor. (c) It takes time for Centres to achieve results (sometimes a year before a new education programme has been developed and another year for students to participate), during which the performance of the Centre could be satisfactory – which is not reflected in the numbers. (d) There are changes in the activities of Centres, which could lead to different outcomes. As the most advanced Centres are 6 years underway, this could distort the overall assessment (a successful change in activities is not yet reflected in the results).

Overall, this dataset is useful to assess overall progress of all Centres (such as distinguishing overall trends), to have a sense of impact as a whole. Also, it can be assessed which

governance framework appears to be most successful, although different sectors (vocational / higher education) and various starting years (learning effect) makes this highly unreliable. Overall, the limitations are considerable, which makes this method insufficient to test the hypothesis.

Second, performance and operations are monitored yearly, based on the actual activities of Centres, and the satisfaction of this performance based on their self-evaluations. This means that activities of each Centre are noted, including whether this activity is successful or not (based on their own evaluation). For each Centre, this is monitored at least three and at most five times. Between these measuring points, governance interventions take place (such as audits and learning activities). This monitoring results in: (a) an overview of the extent to which individual activities are successful, (b) the extent to which Centres (successfully) change their activities, (c) which activities are – overall – successful and which are not (a result also visible in the objective framework of indicators), (d) and whether there is a difference in activities between the governance regimes[6].

A limitation of this analysis is that success depends on the Centre itself, as it is based on a self-evaluation. This means in theory that the same output for a Centre be seen as a good result, whilst for another Centre as a bad result, depending on their goals. Success therefore is relative to the goals of the Centre. As mutual satisfaction within public-private partnerships is seen as the most important success factor, this limitation of relative instead of absolute success is not necessarily a problem. Another important consideration is that the self-evaluations are used within the various governance regimes to assess, monitor and include learning activities. This means that the self-evaluations might not necessarily reflect the whole truth (as argued in the theoretical framework on bureaucracy and NPM and will be explained in the results chapter). For example, great results could also indicate a strong bureaucratic governance regime, as the Centre as inclined to display window-dressing behaviour. This means that case studies are essential to explain the results of the analysis.

An approach that is not taken but frequently used in similar research[7] would be to make a framework with process indicators that have been developed over the past few years as 'good practices'. For example, the phase model public private cooperation includes a set of process indicators that can be measured to assess whether the Centre is likely to be successful (such as legal entity). Also other researchers have developed similar frameworks that could be used[8], and national advisory boards also formulate these frameworks. I think this approach is wrong, as it implies there is a 'blueprint' for Centres[9]. That this approach is insufficient will be proved comparing the characteristics of highly successful Centres with the initial rules for Centres. This shows that the Centres do not follow the rules, but it is the other way around: rules are adapted

---

[6] It is likely that more results can be derived during the analysis.

[7] Note!

[8] Cremers, P.H.M., Wals, A.E.J., Wesselink, R. & Mulder M. (in-press). Design Principles for hybrid learning configurations at the interface between school and workplace. *Learning Environments Research*.

[9] These exercises are useful for learning purposes, but are insufficient when they are translated into rules.

to highly successful Centres that often deviate from the initial rules and establish new good practises.

Case studies
From the quantitative analysis, twelve case studies will be selected, four cases from each governance regime. These case studies are useful, as they explain the quantitative results from the analysis. Additionally, four control-Centres are studies that do not fall within one of the three governance regimes. In general, three questions are central: (a) what governance interventions have taken place, and (b) to what extent did these interventions influence the performance and operations of the Centre (the quantitative results from the analysis), and (c) if not influenced by the governance interventions from PST, RCHO or DUS-i, are there other governance factors that influenced the performance and operations of the Centre (such as supervisory boards, etc.).

It is likely that the governance regime will have some effect on the operations and performance of Centres. It is also likely that an adequate governance regime will not be a sufficient condition for a well-performing Centre, as there are many other factors that influence the operations and performance. It is however interesting to find out whether adequate governance is a necessary condition.

Reorganisation of the governance regimes
The second hypothesis is about whether a reorganisation of the governance of Centres could enhance their ability to cope with rising uncertainty. Results from the quantitative analysis and case studies gives a first insight in the effects of the governance on the operations and performance of Centres, and provides first clues whether and how a reorganisation of the governance has a positive effect on dealing with uncertainty. These insights will be related to the existing theoretical concept of experimentalist governance, methodology on this will be expanded once the quantitative analysis and case studies have taken place.

Accessibility of data
There are five sources of data that are used for the initial analysis. These are:
1. Formal progress reports, used for assessing progress in the various governance regimes;
2. Formal audit reports, in which the progress reports are assessed;
3. In-depth SWOT-analysis (including in-depth interviews with students, teachers, etc.) of Centres, based on voluntary participation (available for 75% of the Centres);
4. Various policy and overall progress reports by the various agencies (PST, RCHO and DUS-i);
5. Field notes since 1-1-2016 from the researcher, reporting various conversations with Centres, informal notes from committee meetings, etc.

The PST has all this data available, and provides this data to the researcher under the condition of confidentiality (see appendix X for the contract[10]). The formal progress reports are used for the quantitative analysis. The formal audit reports, SWOT analysis and field notes are used for the case studies, and will be completed with a questionnaire or structured interviews, depending on the results of the quantitative analysis. The policy and overall progress reports and the field notes are used to assess the changes in the governance regimes.

Position of the researcher
The researcher is actively involved with the Centres and is working for PST. For the PST Centres, I am responsible for the monitoring, auditing and the learning program. For the RCHO Centres, I am member of the Review Committee secretary, and responsible for the learning program. For the DUS-I Centres, I am responsible for the learning program and cooperating with DUS-I in the implementation of the Centres. I have a formal arrangement with PST about this PhD trajectory, which states that the research can be conducted independent from PST-interest.

---

[10] It is possible to further specify this contract if necessary.

4. First results: effects of bureaucracy

This chapter deals with the effects of bureaucratic aspects of governance on the development of Centres, specifically when facing rapid innovation and intertwinement of organisations. Centres function as networks as opposed to schools, and Centres are inherently demand-driven as opposed to the supply-driven school. These effects are written solely from a P-A bureaucracy perspective, and do *not* take into account the learning aspects in the governance regime that have been developed over time. Sources used to construct these first results are various progress reports, audit reports and interviews with directors of Centres. This chapter is an exercise to provide a first glimpse of the effects of PA-governance and the extent to which the available data is useful to answer the research question.

PA governance characteristics

PA models attempt to exclude uncertainty by using top-down control (Koppenjan and Klijn, 2004). The principal sets targets or guidelines, expecting the agent to properly execute these requirements. Within a bureaucracy, this happens by specifying regulations and targets on a 'street level', whilst within NPM, this happens by specifying goals and output indicators and delegating responsibility to decentralized actors. This can clearly be showed in the governance models:

Table 5: comparison between governance models applicable to Centres

Type	Principal-agent relation	Response when the Centre (agent) fails	Response to failure of principal
PST	The school (not the Centre) has a contract with executive agency based on their own performance indicators. Separate committee monitors.	Freeze or stop grant (can also be temporarily).	Revise the quantitative or qualitative performance indicators, revise the monitor process.
RCHO	The school (not the Centre) as a contract with the ministry, based on a business plan of the school tested by broad criteria from the ministry. Separate committee monitors.	Stop grant (no alternate possibilities).	Give leeway for the school for a renewed plan, change the monitoring process.
DUS-I	The school (not the Centre) has a contract with the executive agency, based on an activity plan. Executive agency also monitors whether activities have been executed.	Stop grant, Centre is obliged to report deviations in activities (which can be approved by the executive agency).	Revise monitoring procedure; change a rule in the regulation.

As is apparent from the table, the PA-aspects in the governance regimes have similar responses. When the agent fails - for example does not meet its goals - the principal has a set of corrective measures, mostly (the threat of) stopping the grant. When the principal fails - for example unfair judgements in the eye of the agents - procedures, indicators, or rules are changed. When an agent does not know how to reach the goals, the standard response of the principal is to punish the agent. Also, if the principal sets contradictory or complex policy goals, then the agent's job is to deal with this. Some of the governance regimes changed their approach, such as a direct relation with the partners of the Centre, improvement plans, peer reviews, and a 'partnership' of the executive agency with the Centre. These effects will be described in another chapter.

Bureaucratic models are defined as steering through the means of legislation, prohibitions, and regulations (Weber, 1948/2001, Wilson, 1989). Bureaucracy implies a 'command-control' mechanism, where policy makers translate targets into law. The policy maker creates - based on the targets - specialized regulations and legislation to guide the executive agencies, which are in turn responsible for carrying out these regulations. Pressman and Wildavsky (1984) show that the gap between policy and practice is considerable, due to the implementation process. They distinguish various factors that cause delay or even failure of an entire project, such as multiple goals and decision paths, intensity of participants' involvement? and bargaining. Lipsky (1980) approaches the gap between policy and practice from the perspective of the street-level-bureaucrat, and shows that discretionary authority and the requirement to interpret policy on a case-by-case basis leads to a substantial difference between policy and practice.

In education (and most public sectors) this model has been dominant and still seems implicitly and explicitly present (see for example the risk-regulation reflex). A dominant view within the Dutch Ministry of Education is that the government gives steering on the 'what' (curricula, system of certification, etc.), whilst education institutions have autonomy on the 'how' (teaching methods, how education is organised) (as described by the authoritative Dijsselbloem committee [2008] whilst evaluating top-down changes in the school system). The system of monitoring and accountability aims to establish an educational structure where schools have autonomy within an established set of regulations. The education inspectorate checks whether every school follows the required regulations, and also checks whether the school has its own set of rules and procedures to ensure the school abides the regulations.

The effects of this model can be found in the development of the Centres, mostly under the DUS-I model, but also under the RCHO and the PST model. Three weaknesses when facing rapid innovation and intertwinement of organizations can be highlighted: blueprint thinking, window dressing, and the incomparability of characteristics:

Table 6: overview of major weaknesses in bureaucratic governance regimes.

Blueprint thinking	Implementation gap
	Persistent misunderstanding
	From pillar to post
	Efficient bureaucracy
Window dressing	White lies
	Distorted truth
	Paper reality
Incomparability of characteristics	Comparative advantage
	Comparative disadvantage

First, rules and regulations imply a (broad) blueprint of how education should be organised. Deviations from this blueprint can exist, but they must be approved (for example, through a waiver). Second, window dressing is a well-known agent's response, and is also known as decoupling of policy and practice (Meyer and Rowan, 1977). As the agent knows how monitoring takes place, s/he also knows exactly what to do to please the principal. Finally, fixed rules and regulations imply a level playing field for every school, but do not take into account the fact that some schools have different characteristics.

Blueprint thinking

Blueprint thinking is a persistent and widespread view of how to organise education. Practically every school has detailed documentation about the curriculum, timetables, examination, etc. For any new activities, detailed project plans are formulated and approved by the board. The underlying assumption is the belief that bureaucracy works: rationalisation of both policy-making and implementation through hierarchal order and impersonal rules (Weber, 1948/2001). The main argument for this approach is equality and efficiency: it ensures that every participant gets the same treatment, and because of scale advantages, it is also efficient.

I will argue that there are several manifestations that show the weakness of blueprint thinking, especially in the context of rapid innovation and intertwinement of organisations. In this chapter, I will describe the following effects: (a) the implementation gap, (b) persistent misunderstanding, (c) from pillar to post, and (d) efficient bureaucracy.

a) Implementation gap

The first - and most eye-catching - example only occurs in the governance model with the most bureaucratic features: the DUS-I model. In this governance model, a prerequisite for finance is an extensive activity plan for year 1-4, which is directly linked to the budget. A grant is awarded for each of the (approved) activities. There are strict rules about which activities can be subsidized and

which cannot (and usually when approving the plan, some of the intended activities do not receive financial support as the rules do not permit this).

The Centre starts with implementation after the grant is awarded, and the gap between the plan and implementation opens up almost immediately, which is a natural phenomenon. A couple of concrete examples:
- The project leader of the Centre has not been assigned to his or her task when the plan was written, as the plan is often written by an (external) consultant. Therefore, the project leader does not always agree with the intended activities, thinks they are not manageable and often wants to deviate from the plans[11]. The DUS-I governance model countered this problem by obliging the school to name the future project leader in the plans;
- When new chances and opportunities for the Centre arise, they cannot use their existing funding to pursue these opportunities, but have to find additional funding (or they have to stop other activities and get approval from the executive agency). A Centre in Delft, for example, argued that it could not get into an interesting project, as this was not approved by the executive agency and it had no funding for this innovative project;[12]
- Some activities are not funded by the executive agency because they do not meet the rules. However, these activities might well be the reason for one of the partners to participate. The cancellation of these activities often has negative consequences for their participation. For example, life-long learning activities are almost always a part of the plan, but because the grant is only applicable to initial education, these activities cannot be subsidized.[13]

Blueprint thinking causes the implementation gap. Blueprint thinking implies a completely predetermined set of activities to reach the intended goals, and execute these activities according to the plan. In reality, this rarely ever happens, as there is a gap between plan and execution (Pressman and Wildavsky, 1984). The DUS-I model does not take this gap into account, forcing the Centres to execute the intended activities, stop, or ask permission to deviate (which is not seen as an attractive route, as it requires another assessment by DUS-i). Reflecting on Pressman and Wildavsky (1984), some of their main conclusions causing the implementation gap can also be found in the Centres:

- **Multiple goals**: the Centre has multiple goals (i.e. initial education, life-long learning) because various partners participate and each goal has its own implementation plan. The DUS-I governance regime supports only one of the goals (initial education), which makes it harder for Centres to achieve their overarching goals;

---

[11] This happened for example at the Centre of Expertise Water Technology, CIV PCC.

[12] Meeting with Marcel van Wijk, director of Centre HTC Delft, 30-5-2016

[13] Conversation with Bert Wessels, director of Techwise Twente, (check date). The case of Techwise is exemplary. The Centre made a business plan that included activities aimed at students and businesses. Businesses were very eager to also pursue life long learning activities, which was included in the plan. These activities were excluded by DUS-I, which had Techwise to fundamentally change their plan. Ironically, PPS Energy was receiving the grants for similar life long learning activities, as they hid the fact that these activities were life long learning activities, framing it as regular education.

- **Intensity of participation:** each Centre has multiple participants who want to reach their own goals. Depending on their intensity of participation, renegotiation often occurs to achieve their desired goals. As the DUS-I governance regime obliges each Centre to stick to their original plan or to report deviations from it, this process of renegotiation is influenced. The effect can either be positive or negative: negative examples include withdrawing of partners altogether from the project; positive examples include at least certainty about which activity to execute (renegotiation is limited because of the fixed set of activities).

There has been much criticism of the fact that activity plans had to be made for the period of four years, as this is opposed to the nature of innovative Centres[14]. The criticism caused the Ministry to change regulations, asking for an activity plan focusing mainly on the first year, with a four-year activity plan only occurring globally. This did not have any effect, as every activity still had to be specified because funding depended on it.

b) Persistent misunderstanding
A less visible effect of blueprint thinking is the persistent misunderstanding that occurs during implementation: infrequent contact or distrust between the executive agency and the Centres lead to misunderstandings about the meaning and leeway behind the rules and regulations. These misunderstandings are very persistent, as there is practically no mechanism in place to overcome them. This especially shows the bureaucratic culture that is persistent in education.

The following example makes this clear:
In 2010, seven Centres were selected out of seventeen applicants. One of the requirements was to establish a public-private partnership. Some of these Centres also opted for a legal cooperation, ranging from an association to a private company, following the suggestions of the selection committee. From early on, this was implicitly seen as a 'rule' for Centres, and also added to the individual performance contracts. After two years, it appeared that most Centres performed in a mediocre manner. Centres reported that this was because of legal barriers, something investigated by an independent committee, chaired by Van der Touw. After closer examination and in-depth interviews, it appeared that these Centres experienced problems with their legal entity[15]. The chosen entity at the start appeared to be flawed: the entity was mostly chosen as to improve their chances of obtaining the budget, rather than as a deliberate decision. In the implementation phase, the schools realised for example that they could not legally transfer decision-making powers to another entity.

However - and this is a direct result of the governance regime - the Centres also thought they were not allowed change their legal form without permission of PST. The blueprint - established at the

---

[14] Kamerbrief over regionaal investeringsfonds mbo (2016); https://www.rijksoverheid.nl/documenten/kamerstukken/2016/06/08/kamerbrief-over-het-regionaal-investeringsfonds-mbo; Verslag van bevindingen van de beoordelingscommissie regionaal investeringsfonds mbo (https://www.rijksoverheid.nl/documenten/kamerstukken/2016/03/18/kamerbrief-over-de-evaluatie-van-de-regeling-regionaal-investeringsfonds-mbo)

[15] Report "inventarisatie juridische en fiscale knelpunten, PST (2013)"

start of the Centres and never explicitly contradicted by PST - hindered the Centres from change their legal status. This specific case was one of the reasons prompting PST to change their governance altogether: the way PST governed the Centres had a detrimental effect on their development – of which the Platform was unaware.

Table 7:

Governance type and number of Centres	Centres (strongly) affected	Centres not / slightly affected
Total PST Centres: 6	4	3
CHILL	Strongly affected, reported a one year delay because of legal struggles in establishing a private company. The chair of the Centre followed the performance contract without questioning, even though doubts were raised several times. (Afterwards, EIZT - the second Centre of the school - was established without a legal entity).	
CEW	Slightly affected, built upon a regional best practice and copied their model with responsibilities and entity. One of the stakeholders opposed but had limited influence because of the performance agreement, during the years this stakeholder did try to change the structure of the Centre several times.	
M.A.C.	Affected, started with a cooperative association; after bad performances and withholding of money by PST, the Centre asked for a change in the legal entity. The cooperative association malfunctioned for a couple of years and led to less commitment by the partners.	
IJ5 Lab	Not affected, was not included in the performance agreement. The Centre did have problems with their structure, but there is no evidence that these were caused by the PST governance but due to internal problems. With hindsight, it could be argued that including a legal entity in the performance contract might have solved internal struggles.	
ACE	Slightly affected, the Centre deviated from the original plans and informed PST afterwards, who agreed with this. The original agreement (a legal entity) caused much discussion with the partners; one of the partners refused to cooperate so a different entity was sought and found;	
CIVOM	Affected, a legal entity was implemented because of the performance agreement. The entity was terminated after the grant from PST ended prematurely.	

In this case, blueprint thinking led to a negative effect on the development of the first Centres. Because of the strong pressure to ensure a legal entity, Centres remained with their legal form for a long time, even after they realised it was not the most effective structure. An authoritative report by the Van der Touw Committee helped to resolve this problem. In this report - based on the experiences of the first Centres – the committee members emphasized that structure should follow strategy and advised Centres to first start their activities and decide on the legal entity after the Centre was well underway. Also, the RCHO dropped the demand for a legal entity, although the RIF governance regime did include a (lighter) demand on structure.[16]

Interestingly, PST agreed with the change of structure once the Centres asked. However, a majority of Centres had neither discussed nor changed their structure, arguing that this was part of their performance contract, which they thought was unalterable. The 'blueprint' for a Centre existed in the form of a legal entity - it was assumed - and could not be changed. This implicit effect of bureaucracy can often be observed but is hard to detect, as this happens under the surface. The agent implicitly thinks the principal will not agree with the proposed change, thus precipitating this behaviour. The principal on the other hand never realises that there is a (significant) problem, and might even enforce the rule more vigorously in subsequent governance regimes. I will call this the "persistent misunderstanding" problem with bureaucracy.

These implicit expectations, caused by persistent misunderstandings, can be observed at various levels and occur frequently – also *within* the education institution. In the review committee system, a similar misunderstanding arose about whether or not the Centres were allowed to transfer remaining funds to subsequent years[17]. In the RIF system, these misunderstandings arose about activity plans and the question of how extensive these had to be.

This misunderstanding is caused by a lack of understanding of the ideas behind the method, which transform a method into a rule or even a regulation. In the PST case, the method was introduced as a way to ensure public-private cooperation. The existence of a legal entity is easy to measure, and therefore became part of the implicit selection criteria. The method afterwards became a rule for the Centres, whilst the Centres and PST failed to engage in discussion about the method and the ideas behind the method.

In other cases, the agent argues that the preferred methods are obligatory and a rule set by the principal. For example, the Director of a Centre tells its partners that a legal form is obligatory even though this is not true. As the partners of a Centre are often dependent on the Director and have no direct relation with the principal, this is believed to be true, thereby transforming a method into a rule.

---

[16] http://wetten.overheid.nl/BWBR0035054/2015-12-01, 15-12-2016; beoordelingskader Centres of expertise, http://www.rcho.nl//asp/invado.asp?t=show&var=1043&fontsize=11, 15-12-2016.

[17] Several conversations and meetings with directors of CoE RDM, SEECE, CEW, ACE, ACIN; email conversation with the ministry of education (2016). Interestingly, although the ministry allowed funds to be saved for future years, internal accountancy rules prevented some Centres to transfer funds.

These persistent misunderstandings can linger for years and spread mostly through informal communication. They are almost never contradicted by the principal, as there is no procedure for countering these misunderstandings. Civil servants can only refer to the current rules and regulations but do not give an interpretation of the latter for the specific Centre to avoid setting a precedent.

In practice, this problem can be overcome by an audacious principal or agent who helps to establish a good practice. For example:
- I advised multiple Centres - in my role as secretary of the RCHO - about the nature of the funds - something that was not well understood. This helped several Centres to save some of the funds, setting a good practice. Through word-of-mouth, most Centres now use this method, although some internal accountancy rules still hinder this method[18];
- A Director of a Centre disagreed with the definition of a Centre by an expert committee, arguing correctly that the Ministry of Economic Affairs - whence he derived his funds - had a different goal for the Centres than the Ministry of Education. Because of his persistence, he managed to change the perspective of the expert committee[19]. If he had not done so, the chance of enforcing a blueprint on the Centre would have occurred.

Essentially, these audacious principals and agents change their roles. The principal no longer merely sets the rules and guidelines, but is actively involved in their execution. The agent, on the other hand, gets involved in setting the (interpretation of) rules and guidelines, something he or she usually needs to execute (Lipsky, 1979).

c) Pillar to post
The pillar-to-post category shows what happens when a blueprint from a neighbouring policy area is touched. As this other policy area has no interest in adjusting a blueprint where there is no direct benefit to them, agents will be sent from pillar to post.

The first example concerns VAT.
The demand-driven nature of Centres means they are involved in activities that are both public and private. For example, most Centres are involved in practical research for the participating businesses, and combine research and education. Another example involves activities in life-long learning, where businesses pay for their employees to participate in the various courses. Whereas most schools are VAT-exempt, most Centres are not. Because both VAT-liable and VAT-exempt partners participate in the Centre, this causes the so-called VAT paradox, leading to excessive costs in certain specific situations.

Because most of the activities within the Centres are relatively new, tax inspectors and school accountants do not know how to deal with these situations. This has led to long procedures,

---

[18] E-mail conversation between Centres, ministry and myself, 2016

[19] e-mail conversations between director, expert committee and ministry, 2014

contradictory verdicts, and much misunderstanding about the nature of the VAT. In this case, there was no persistent misunderstanding, as actors frequently discussed their problems and expressed concern - the issue was even discussed with the Minister of Education and motions have been filed in Parliament. However, no significant progress was made over the past couple of years. The latest ´achievement´ from the government is an 'information card', explaining – yet again - the way VAT works[20].

How is this possible? The civil servants from the Ministry of Education wanted to solve this problem. However, the civil servants of the Ministry of Finance have strict instructions to avoid all discussions about widening VAT exemption. Centres that try to solve their VAT problem are therefore referred to their regional tax inspector, and the tax inspectors refer to the Ministry of Finance about the general rules and regulations. The Ministry of Education - which also receives complaints - is not responsible and has to refer to the Ministry of Finance.

Again, breakthroughs occur because of audacious Centres or - in this case - an audacious school that went to court and fought for over seven years, widening the VAT exemption somewhat. Also, when a Centre was facing bankruptcy because of this problem, a civil servant from the Ministry of Economic Affairs managed to persuade the Ministry of Finance to take action. The Ministry then replaced their regional tax inspector on this case, which then solved this specific case.

Interestingly, a third route that solved a lot of problems was the involvement of a tax advisor working for many Centres, using trial and error (and a lot of court cases) to find the best way to deal with this issue. Every time the PST received a question about VAT, it referred to this same tax advisor giving free advice to the Centre (one day paid by PST). Also, regular meetings between Centres were held about the problem. Because this one person knew all the cases, he could easily refer to other Centres that had solved similar problems. Also, a common knowledge base was built up and made available to all Centres. Although no new rules were established, through trial and error, many Centres were able to solve their problem using existing rules and regulations[21].

Still, the problem exists and the pillar-to-post problem in VAT remains for many Centres. Current rules and regulations are not altered because of the aforementioned position of the Ministry of Finance, despite the political pressure of the Ministry of Education.

A second pillar-to-post problem concerns the nature of the oversight of public-private partnerships in the Centres. For several years, the leading document concerning this oversight has been the 'Guide for public-private activities in education institutions'. This document is vague and does not answer specific questions by Centres. Rather than answering these specific questions through an expert group with diverse expertise - one of the recommendations of the Van der Touw Committee - a broad working group of civil servants of the Ministry of Education has been called into action

---

[20] See e-mail conversation between ministry of economic affairs, a VAT-specialist and myself

[21] This is something that works until the project becomes too large as business interests of other VAT-specialists become more important and they therefore argue that the position of the VAT-specialist is unfair.

following a report by the Education Inspectorate about public-private activities. One of the actions of this working group has been to see whether the aforementioned 'guide' needs to be revised. So far, no visible actions for Centres have been undertaken. In the long run, this working group might change some of the current rules and regulations. In the short term - the period that Centres receive funds from that same ministry - they are left on their own.

Therefore, every time a Centre has a question concerning oversight, it is still referred to the old guide. When asked how to apply these rules, the Ministry is unable to answer. Only *after* the educational institution has applied the rule to its current situation, the Education Inspectorate checks whether the rule is applied correctly; a typical case of 'from pillar to post'.

d) The standardized bureaucratic machine - freeing up resources within a school
The effect of blueprint thinking can also be observed within the partner school of the Centre. The shift from a supply to a demand-driven approach means that resources have to be made available within the school. For example, a demand-driven research project for a company means that students, researchers, and teachers have to be available in order to carry out the research at the right time. This also applies to life-long learning activities. The fixed school schedules clash with the demand-driven nature of the Centres. It is not 'normal' to deviate from these schedules, as the blueprint implies otherwise.

Every Centre deals with this internal struggle. For a school, it is extremely hard to free up the necessary resources, as these are typical bureaucracies driven by centralised and rule-driven decision-making (Weber, 1948/2001). Students' schedules are fixed for at least six months. Teachers have limited time and are necessary for the students' schedules. And the few staff members that are available are very busy because of the management of all the extra projects. These projects are not part of the formalised process. On the other hand, the participating businesses expect the Centre to meet the agreed upon activities within a reasonable schedule.

Centres deal with this problem in their own way. In most advanced Centres, there are even specific staff members who are responsible for freeing up resources (students, teachers, infrastructure) in order to be able to achieve flexible schedules[22]. In Centres that do not perform well, the rigidity of the school bureaucracy is often one of the main reasons for delay.

This is a classical example of how a standardized bureaucracy such as a school clashes with the nature of the Centre. Very often, again, audacious project leaders of Centres manage to deviate from the school schedules by disentangling their activities from regular school activities. The Centre becomes a separate unit. This is often a (political) struggle in the school, as the board of directors are inclined to organise the Centre close to regular school activities (as all students and teachers should profit).

---

[22] Regional co-makership project in Groningen, led by dr. Ineke Delies.

Interestingly, normal rules and regulations that are monitored by the education inspectorate fully apply to the activities of the Centres (such as the number of contact hours, the educational and examination regulations, etc.). Room for experimentation - although frequently requested - is not given. This reinforces the standardized bureaucracy in the schools, and does not make them more inclined to give leeway to the activities of the Centre. Therefore, sometimes the Centre is positioned as a 'special project', and not as part of regular education.

The latter is illustrated by the case of the vocational health care education in Friesland. This education almost entirely occurred at the workplace (hospital), where education experts argue is the best place for vocational education to take place. The Minister of Education also visited this 'best practice'. However, the education programme was almost terminated by the Education Inspectorate because it did not meet the rules and regulations[23]. This has caused a lot of concern at the Ministry of Education: how can a best practice be rejected by the Education Inspectorate, which merely monitors the rules and regulations of the Ministry.

These kinds of examples are often the reasons for the Ministry to revise the rules and regulations somewhat. This can be observed when the Ministry introduced the 700 hours rule, forcing every school to give at least 700 hours of education per year per student. Not every school could meet this requirement. In some schools, for example, students spent more time in the workplace - but these hours did not count for the 700 hours. The Minister of Education then ordered the education inspectorate to make it possible to deviate from this rule, *provided* that there was a good reason (comply or explain the principle).

Interestingly, reviewing the broad inspection framework, there is actually considerable leeway for schools. Often, schools blame the ministry or inspectorate for the tight regulations, but very often interpretation of the rules (by the school or inspectorate) is the cause. For a while now, the Ministry and Inspectorate use the 'comply or explain' rule. It is almost always possible for a school to deviate from the rules, but there has to be a good reason for it. However, often the school bureaucracy is strong, and radical changes in the school regulations are not easily made. The bureaucratic culture prevents any significant changes from being made (Crozier, 2009).

e) Conclusions about blueprint thinking
This section shows the effects of (either explicit or implicit) blueprint thinking on Centres. As each of these examples show, for every deviation from the blueprint - whether actually required or not - the principal-agent effects occur. These examples show that these effects can be unexpected and sometimes counterintuitive. In the 'persistent misunderstanding' examples, it is shown that the agent can be motivated to withhold information from the principal thus leading to a misunderstanding between principal and agent. In the 'from pillar to post' examples, it is shown that strong blueprints from other legislative sectors mean that Centres are thrown back in their

---

[23] Meeting with civil servant of ministry of education (Stef Beek), 15-6-2016

development process. Finally, 'efficient bureaucratic machine' leads to a situation where changes are hard to implement, as these changes are not part of the hierarchical decision making process.

Blueprint thinking refers to the decoupling of policy and practice, both mentioned by Lipsky (1980) and Pressman and Wildavsky (1984). Lipsky focuses on the street-level bureaucrat who - in fact - often acts as a principal by setting his or her own rules and procedures. Pressman and Wildavsky, on the other hand, focus on implementation problems, which cause a natural deviation from plan to practice. Bureaucratic governance reinforces blueprint thinking, as it acknowledges the concept of rationalisation of policy making and implementation. Even when breakthroughs happen (because of audacious principals or agents), bureaucratic culture ensures that this is often reversed. And as breakthroughs are often dependent on one or two persons, actual changes prove to be very difficult.

Window dressing

The second effect described is window dressing, which can be seen as one of the most negative effects of the decoupling of policy and practice. Within a bureaucracy, it is clear how monitoring takes place and what specific requirements are, so the agent can anticipate such monitoring. This often means that the monitoring process involves the exchanging of pleasantries and avoids showing real problems that Centres face. Only when the Centre performs really badly, does it admit problems. Otherwise, usually the positive aspects of the Centre are shown and negative aspects hidden. This results in a wide gap between the principal and agents. In this part, three examples of window dressing are described, specifying why Centres are able - and motivated - to show this behaviour: 'white lies', distorted truth, and paper reality.

a) 'White lies'
At the start, Centres are usually focused on obtaining the available funds. This happens in competition, where each Centre has to produce a plan and present this in front of an expert committee. Each of the governance regimes has similar qualitative criteria, such as 'strength of the partnership' and integration of research and education. In the assessment process, most Centres behave strategically to obtain the grant by also using deploying 'white lies' that increase their chance of success.

These 'white lies' are very common in these procedures and are also seen as normal. This is expressed for example through exaggeration of the role of businesses in the partnership and the pace by which the Centre will develop (according to the time table). In some cases, the partners in the Centre had not even met before they meet at the expert committee, whilst during the committee meeting, they emphasized their strong cooperation.[24]

Such white lies becomes problematic in the course of the Centre's development. A grant is awarded based on the Centre's promises, which are really expectations they are unable to meet. This

---

[24] Observations during many committee meetings and informal chats.

stimulates window dressing, as the Centre does not want to lose the grant. This creates a gap between plan and implementation. This results in the same 'white lies' that can usually be observed by vague and incomprehensible progress reports.

B) Distorted truth
Sometimes, Centres are involved in distorting the truth - they do not lie but distort some of the facts to explain some of the mediocre results when they are not able to cover these with the aforementioned white lies.

A typical example is IJ5 Lab, a Centre focused on chemicals[25]. Year after year, the participation of businesses was lacking. The Centre hid these results in reports through white lies. When asked about this in committee meetings, they explained that because of the recession, small chemicals businesses were not able to free up resources. At that point, the committee accepted this excuse and motivated the Centre to continue their quest. Near the end of their development path, it appeared mismanagement occurred. It appeared that the Centre was undermanaged all these years, and the only manager had even been taken ill in the last six months. Basically, nothing had happened in these months, except writing a fancy progress report.

These types of examples can - more or less - be very often found when looking at the performances of Centres in depth. With MAC, for example, a large sum of the funds was used for regular school activities, because the school had a shortage. And with BouwCentre, most of the funds were given to a partner in debt.

The reason Centres act like this can be explained easily. There is no benefit for them to show these weak spots. The committee can either approve or disapprove the Centre, with the latter having the consequence of the ending of funding and negative publicity. Centres are *able* to act in this way, because monitoring is mostly a paper exercise. And because activities - and results - are dependent on a multiple partners, distorting the truth is easy.

c) Paper reality
Finally, the best example of window dressing is the 'paper reality'. Examples can be found in the revised PST monitoring. When PST changed its monitoring methods, one of the new measures was interviewing multiple stakeholders and customers of the Centre (students, teachers, employees of businesses). At first, Centres were not aware of the effect, resulting in a gap between, on the one hand, the interview results and the progress reports[26]. After a year, this had a great influence on the nature of the progress reports, which in turn became far more nuanced and honest. Additionally, funding partners of the Centre were involved in a so-called 'investment meeting' - as opposed to just a meeting with the school - revealing the actual progress to all partners. Shockingly, it appeared that most schools in earlier stages had not told their partners at all about the results of the monitoring, or devised an adapted version of their plans.

---

[25] Anonymise when becoming public
[26] See PST audit reports from 2013 (find quote)

This example shows how actual practice and paper reality is bridged by a relatively simple change in the monitoring process. Unfortunately, in the other governance regimes, this method has not been adopted.

Conclusions about window dressing
As shown in this chapter, window dressing is a very regular activity and practiced by every Centre, as it is 'part of the show'. The consequence is that real challenges of Centres are practically unknown to the principal, as there is no intrinsic motivation for Centres to expose these. Hence, reports about progress of Centres only reflect generalities and are usually more political rather than factual. Only through in-depth monitoring - as the PST 2.0 example shows - can real progress and actual results be identified, although also implying a high accounting burden and high costs for the executive agency.

The reason this behaviour can take place is because Centres seek to avoid being caught in a set of fixed rules and procedures, because of the context of rapid innovation and intertwinement of organisations. The traditional bureaucratic approach is to approve a set of activities that are allowed - and monitor whether these activities are executed. From the Centres' perspective, this is an unworkable practice. Centres therefore use window dressing, and are able to do so as it is relatively easy to fool the principal. Bureaucratic governance reinforces window dressing, rather than bridging the gap between the principal and agent. Worryingly, most Centres see this as 'common practice', which indicates a strong bureaucratic culture.

Incomparability of characteristics

The rules in a bureaucratic framework are not the same for every Centre, even though they appear to be so. Centres are very diverse, as they have different partners (i.e. large high tech companies or creative SME companies), established in different regional context (i.e. urban or rural) and have different goals. First, this means that paradoxically the same rules do not have the same effect on the Centres (Stone, 2012), which means that some Centres have an inherent advantage or disadvantage that they can use strategically. Second, top-down rules also have an effect on the potential strength of this diversity. Execution of the rules means that diversity is essentially ignored and potentially destroyed (Kristensen and Zeitlin, 2005).

a) Decreasing diversity
[for this paragraph, I will need the quantitative analysis to review whether the DUS-I model results in less diversity in activities).

b) Regional advantages and disadvantages

Eindhoven - marketed as the smartest region in the world - has a well-organised business network and a reputation for strong technological companies[27]. Both their reputation and business network makes it easy for Centres in this region to acquire government funding, although these positive assessments are not necessarily caused by the Centre's performance. The Centre can use the impressive 'stats' (often marketised) to its own advantage. The success of this approach is clearly visible. Even when a Centre is not particular successful and is assessed negatively, it may still be able to continue its development.

An example of this effect can be observed with a Centre in Eindhoven. During a review, they received a mostly negative evaluation; however, the Centre managed to convince the committee to continue the funding, because a group of businesses promised their support. The
Centre received the benefit of the doubt, mostly - as the committee argued - because of the strong region[28]. In contrast, a Centre that also performed poorly during the same review for similar reasons was excluded from the programme.

c) The effect of a single benchmark
Monitoring usually takes place through established indicators and benchmarks. With Centres, only one indicator is used: each Centre is required to get a minimal percentage of business funding. As industries differ, it proved to be a lot harder for some Centres to acquire funding. For example, in the creative industry, there are mostly very small-sized companies, with limited budget to invest in human resources or innovation. In contrast, the high tech industry has many medium and large businesses, which have a strong sense of urgency to invest in human capital (because of shortages of technicians)[29].

d) Shopping for benchmarks
Interestingly, other indicators and benchmarks can be set by Centres themselves, as there is no single set of indicators. Centres use this fact to their own advantage, as there is so much information available it is impossible for a principal to assess the plans correctly - as 'correctly' does not even exist anymore. This results in a distorted P-A relationship. A couple of examples that explain the variety of information a Centre can use are the following:
- Vocational education has two types of programmes, one based on full time at school and the other at a business. Within these programmes, four levels are possible, and over a thousand different qualifications can be acquired. To prove a certain point, there is always a specific qualification, programme or level that corresponds to this point. For example, a declining number in the 'mechatronic programme' might be reflected in an increase in another programme (or an increase of students in another vocational school, or reflect a declining

---

[27] And although many indicators point out that Rotterdam and Amsterdam are at least equally competitive, the position of the Eindhoven region is firmly established.

[28] Which is not necessarily true: Two years later, no significant progress was made, resulting again in a negative assessment. See subsequent progress reports and audit reports of HTSM Fontys.

[29] See for example progress reports of Amsterdam Creative industries network versus TechYourFuture in Twente.

population, or a recently started private school, etc.). However, the Centre can use this declining number to prove the urgency of funding.

- Economic development studies are utilised by the national government, regional provinces, and local municipalities. These studies all have different scopes, measures, and aims. For example, municipalities might want to discover their own economic strengths, which on a provincial scale have no significant impact. Another example is that nation-wide, there are nine economic priority sectors, whilst Amsterdam has chosen its own eight priority sectors, and the two sets of sectors only partially overlap. The Centre can choose which study it uses, depending on which study strengthens the point the Centre wants to make.

References

Adviesraad voor Wetenschap, Technologie en Innovatie (Advisory Committee for Science, Technology and Innovation) (2014), MKB en Hogescholen, Den Haag

Castells, M. (2011). The rise of the network society: The information age: Economy, society, and culture (Vol. 1). John Wiley & Sons.

Centre for Expertise in Vocational Education and Training (2013). *Krachten bundelen voor vakmanschap: over co-makership tussen onderwijs en bedrijfsleven*.

Commissie de Boer (2009), Sectorinvesteringsplan hbo 2011-2016, Den Haag: Platform Beta Techniek

Commissie Hermans (2010), Sectorinvesteringsplan mbo 2011-2016, Den Haag: Platform Beta Techniek

Commissie toekomstbestendigheid hoger onderwijs [commissie-Veerman] (2010) *Differentiëren in drievoud, omwille van kwaliteit en verscheidenheid in het hoger onderwi*js, Den Haag, april 2010.

Commissie-Van der Touw (2013). *Ruimte voor Ontwikkeling. Rapportage van de Commissie Publiek-private samenwerking in het beroepsonderwijs.*

Crozier, M. (1984), The Bureaucratic Phenomenon, Transaction publishers.

Onderwijsraad (Education Council of the Netherlands) (2005). Bijdragen van onderwijs aan het Nederlandse innovatiesysteem. Advies. Den Haag: Onderwijsraad.

Education Council of the Netherlands (2014), Meer innovatieve professionals, Den Haag: Onderwijsraad.

Government advisory committee on life-long learning (2014), Flexibel hoger onderwijs voor volwassenen, Den Haag.

Heemskerk, E. en Zeitlin, J (2014) *Public-private partnerships in Dutch vocational education and training: Learning, monitoring and governance*, Den Haag: Platform Beta Techniek.

Kamps, Hans (2009), *Investeren in kennis, Den Haag: Platform Beta Techniek.*

Katapult (2016), *Samenwerking in Cijfers, Den Haag: Platform Beta Techniek.*

Kickert, W., 1995. Steering at a Distance: A New Paradigm of Public Governance in Dutch Higher Education. Governance, 8(1), pp.135–157.

Klijn, E.H. (2010). Public Private Partnerships: deciphering meaning message and phenomenon. In Handbook of PPP.

Koppenjan, J.F.M., Klijn E.H. (2004), Managing uncertainties in networks: a network approach to problem solving and decision making. Psychology Press.

Kirstensen, Zeitlin (2004), Local Players in Global Games: The Strategic Constitution of a Multinational Corporation, Oxford University Press.

Leydesdorff, L., 2010. The knowledge-based economy and the triple helix model. Annual Review of Information Science and Technology, 44(1), pp.365–417.

Lipsky, M. (1979). Street level bureaucracy (Vol. 198, No. 1). New York: Russell Sage Foundation.

Meyer, J.W. & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. American journal of sociology, vol. 83, No. 2, pp. 340-363.

Ministry of Education (2015), Strategische agenda Hoger Onderwijs, Den Haag.

Pressman and Wildavsky (1984) Implementation, University of California Press.

Review committee Higher Education and Research (2014), *mid-term review Centres of expertise*.

Sabel, C, en Zeitlin, J. (2012). Experimentalist governance. In: Levi-Faur, D. (red.) *The Oxford Handbook of Governance.* Oxford: Oxford University Press

Sabel, C.F. (2004) '*Beyond principal-agent governance: Experimentalist organisations, learning and accountability*', in: E.R. Engelen en M. Sie Dhian Ho (red.) De staat van de democratie. Democratie voorbij de staat, WRR verkenningen nr. 4, Amsterdam: Amsterdam University Press.

Scharpf, F.W. (1994), Games real actors could play: positive and negative coordination in embedded negotiations, in: Journal of Theoretical Politics 6 27-53

Torfing, J., 2005. Governance network theory: towards a second generation. European political science.

Van der Toren, Jan Peter, and Tammy Lie (2004). *Innovatie, clusters en beroepsonderwijs: publiek-private samenwerking in variatie, Den Haag: Platform Beta Techniek*

Van Rijsewijk, Irene (2015), Public-private partnerships in senior secondary vocational education, masters' thesis, Wageningen: Wageningen Research University.

Van Staalduinen et al. (2014). Midterm Review: Centres of Expertise & Centra voor Innovatief Vakmanschap, Auditrapportage 2014, Den Haag.

Weber, M. (1948), Bureaucracy, New York, NY: From Max Weber: *essays in sociology*. Routledge.

World Economic Forum (2012), *Global Competitiveness Report 2012-2013*. Geneva: World Economic Forum.

WRR (2013). *Naar een lerende economie. Investeren in het verdienvermogen van Nederland*. Amsterdam: AUP.

Appendix I: quantitative analysis

Activity categories:

Match labour market & education
Doorlopende leerlijnen vo-mbo/hbo
Doorlopende leerlijnen mbo-hbo
Doorlopende leerlijnen hbo-wo
Promotie basisonderwijs
Promotie voortgezet onderwijs
Meer studenten door marketing & communicatie
Improve initial education
Topopleidingen niveau hoger
Verbeteren reguliere opleiding (+participatie hierin)
Praktijkgericht onderzoek (sec, volume)
Praktijkgericht onderzoek in onderwijs
Multidisciplinaire teams
Multi-level teams mbo-hbo-wo
Masterclasses voor studenten
Masterclasses /opleidingen voor docenten
Versnelde route mbo-hbo
Ontwikkeling keuzedelen /minoren/specialisatie
(Inter)nationale stage / trainees
Docenten uit het bedrijfsleven
Aankomende docenten betrekken
Ontwikkeling Associate Degree met hbo
Ontwikkeling leerwerkomgeving
Onderzoekspublicaties

Master onderwijs
Promovendi
Lectoraten
Certificaten / additionele waardering
Internationale studenten
Life-long learning
BBL opleiding niveau 4+
Individuele modules voor medewerkers
Maatwerk voor bedrijven
Masterclasses voor werkenden / ondernemers
Duale Associate degree met hbo
Om en bijscholing werkzoekenden
Contribute to innovative strength
Onderzoeksprojecten voor bedrijfsleven
Ontwikkelopdrachten vanuit bedrijven
Verhuren van faciliteiten (facility sharing)
licenseren / verkopen van ontwikkelde kennis / IP.
Commerciële opdrachten in faciliteiten
Kenniscirculation activities (theme days, seminars, etc.)
Start ups
Maatschappelijke vraagstukken onderzoeken
Co-creatie sessies met bedrijven
Publicaties voor praktijk
Bedrijfsnetwerk onderhouden
Talentprogramma professionals
Bijbanen in de sector voor studenten
Production and research facilities

Productie- en onderzoeksfaciliteiten van onderwijs	
Gezamenlijke faciliteiten bedrijfsleven en onderwijs	
Gebruik maken van externe faciliteiten	

First examples of possible analyses

Activities either successful or not?

Count of Project		
Type	*Motief*	*Totaal*
DUS-I	*No reporting*	*29*
DUS-I	*Activity failed*	*7*
DUS-I	*Activity successful*	*13*
PST	*No reporting*	*73*
PST	*Activity failed*	*43*
PST	*Activity successful*	*28*
PST	*Activity started*	*2*
rc	*No reporting*	*12*
rc	*Activity failed*	*7*
rc	*Activity successful*	*23*
rc	*Activity started*	*5*
Eindtotaal		*245*

New activities started per governance type

(now highly misleading, as N=5, RCHO numbers are is caused by 1 Centre)

Type	Motief	Total

DUS-I	New activity	0
PST	New activity	3
RCHO	New activity	21

Activities started per category

Row Labels	CIV Teclab	CoE Energy	PPS HTC Delft	CoE CHILL	CIV PCC	Grand Total
Contribute to innovative strength	7	12	5	6	2	32
Improve initial education	13	16	7	10	8	54
Life-long learning	4	1	2	3	3	13
Match labour market & education	5	6	4	4	5	24
Production and research facilities	3		2	1	1	7
Grand Total	**32**	**35**	**20**	**24**	**19**	**130**

Appendix II: overview of categories of observed principal-agent effects

This appendix lists the effects of P-A models that are observed in practice at the Centres. In this paper, blueprint thinking and window dressing are elaborated on.

Problem	Leading to	Bureaucracy	NPM
Blueprint thinking	Implementation gap	Y	N
	Persistent misunderstanding	Y	N
	From pillar to post	Y	N
	Efficient bureaucracy	Y	N
Window dressing	White lies	Y	N
	Distorted truth	Y	N
	Paper reality	Y	N
Incomparability of characteristics	Comparative advantage	Y	Y
	Comparative disadvantage	Y	Y
Numbers are fundamentally flawed		N	Y
Conditions of local units		N	Y
Story behind numbers		N	Y

Appendix III: What are Centres of expertise and Centres of innovative craftmanship?

This subsection answers the question what these Centres are, how they are developed, and what functions they fulfil. This is a first exploration that concerns sub-question three; 'How should vocational and applied research institutions deal with the risen uncertainty'?

Policy history
The concept of the Centres was first developed in a report called 'choosing for knowledge', written by a Committee headed by Hans Kamps (2009), commissioned by the Platform of Science and Technology (PST). The PST functions as the executive agency for the ministries of Education and Economic Affairs for programs aimed at improving the number of students in science, technology and math. The PST is a foundation with a supervisory board with members of businesses and schools, therefore operating relatively autonomous from the ministries. The report 'choosing for knowledge' was a way for the PST to explore a new direction for the STEM agenda from 2010 onwards. The ideas in this report were developed further into Centres of expertise (by a committee headed by Hans de Boer, jointly commissioned by the association of universities of applied sciences and the PST), and Centres of vocational education (a committee headed by Loek Hermans, jointly commissioned by the association of vocational education and the PST).

> *Background PST.* Since 2004, the government has invested 60 million a year to achieve 15% more inflow and outflow of STEM students in higher education. For universities, this target was reached in 2010, universities of applied science never achieved this target. In the period 2004-2010, vocational education became more important, because of the (political) resurrection of manufacturing industry, an industry where traditionally there is a shortage of STEM-workers. During this period, the ministry of economic affairs developed their 'topsector' approach that focused on 9 specific economic sectors in the Netherlands. The shortage of human capital in these - mostly STEM-oriented - sectors was and is still one of the weak spots of the competitiveness of the Netherlands (World Economic Forum, 2012).

Since the start of the Centres in 2011, policy reports have been pointing in the same direction as the analysis made by Hans Kamps. The most authoritative report stems from the scientific council for government policy named *Towards a learning economy* (Lieshout, 2014). In this report, it is argued that knowledge circulation between institutions is crucial in order to maintain Dutch economic competitiveness and prosperity. In the report, far-reaching recommendations are given to education institutions. More recently, the Advisory Board for Science, Technology and Innovation (AWTI) addressed the question addresses the question: "How can small and medium-sized enterprises and universities of applied sciences improve their knowledge partnerships". They argue that this can be achieved by improving (a) the articulation of research need by SMEs, (b) the internal organization of universities of applied sciences and (c) cooperation between public institutes of knowledge. And specifically, the AWTI recommends that the government "*emphasize the Centres of Expertise as a platform for promoting cooperation between universities of applied sciences, other public institutes of knowledge and SMEs*" (2015: 4, English summary).

From the perspective of education, the most authoritative report stems from the Veerman Committee called *Differentiëren in drievoud* [translate] (2010), which advises higher education institutions to differentiate and specialise in order to improve the quality. This report was also used as an argument to implement the system of performance indicators. By introducing performance indicators, it is argued, higher education institutions can choose where to excel. More recently, the Education Council of the Netherlands argues in its report *More innovative professionals* (2014) that Centres of expertise should be continued, because there is an increasing need for more and stronger strategic networks between education, research and businesses. Finally, in 2015 the Ministry of Education presented a strategic agenda for higher education 2015-2025. In this agenda called 'The value of knowing', the Ministry presents three themes: (a) there need to be communities of learning with room for discussion and reflection; (b) focus on talents and diversity, and (c) a connection with businesses and society. Centres of expertise in this report are seen as an important tool to connect with society and businesses (Ministry of Education, 2015: 15, 65, 67).

What 'should and can' these Centres do?
The debate about what these Centres should and can 'do' is in a preliminary phase. In practice, three types of activities can be distinguished: activities aimed at (a) innovation of education, (b) life-long learning and (c) an innovative role towards businesses. Examples are the introduction of blended learning or massive online open courses (MOOCS), re-skilling the workers at companies, or practical research for regional companies. However, the appreciation and further development of these activities depends on the theoretical approach that is chosen. Three different approaches can be applied that influences the answer to the question what these Centres 'should and can' do.

The first is the perspective of learning outcomes, better education and the functioning of schools in general. Here, the student is taken as the main objective, and the added value of cooperation between schools and businesses is seen primarily from the perspective of the student. Other benefits, like increased knowledge circulation between businesses and schools, are appreciated from the perspective of the benefits for the student. For example, the Ministry of Education introduced an Associate Degree, which is an qualification for employees to promote life-long learning. Also, innovation assignments where students contribute - for example improving a product of a company - are strictly monitored for its learning purpose.

An interesting example is a report of the Centre for Expertise in Vocational Education and Training (ECBO) that identified the need of cooperation between businesses and schools because of their primary education role. Cooperation here is necessary to keep the education 'up to date' with professional practice. They also distinguish a second reason for cooperation, namely knowledge sharing, but link this directly to the education outcome: 'because of the aspect of knowledge circulation, this can in turn benefit the school in her primary education role' (ECBO, 2013: 13). From this perspective, the report distinguishes four types of PPP: (a) a school within the company; (b) schools and businesses make a new entity; (c) the company is based within the school; and (d) temporary projects between a business and a company. Every model is analysed from the perspective of the students learning outcome. In higher education, the Education Council of the Netherlands (2005; 2014) published similar reports.

The second perspective it the perspective of the need for human capital within businesses; it is about enough personnel for a specific economic sector; about content of the curriculum; and about internships and examination. The school should be able to provide enough and well-skilled workers (for example, see reports by the Cooperation between Vocational Education, Training and the Labour Market[1]). The school in this perspective is primarily seen as an economic tool to improve competitiveness of businesses. Here, life-long learning is promoted when it leads to direct benefits to the company, such as VCA (safety qualification) or specific skills.

The third perspective is the competitiveness of a region (or country), from the perspective as the sum of overlapping (regional) triple helix ecosystems (Van den Toren and Tammy Lie, 2014). In this approach - building upon the cluster theory of Porter - businesses, schools and (regional) government are seen as an interrelated network ('ecosystem') that influences each other. Cross-sectoral knowledge circulation is important. The question whether or not an ecosystem is competitive, depends on the extent to which the different actors coordinate their activities and are able to share and create knowledge. Each actor has its own role, motives and responsibilities, but contributes to the ecosystem. The mentioned activities of innovation and life-long learning are appreciated from these different perspectives. For example, both an associate degree and business certificates can be equally important, depending on the precise needs of the partners. Therefore, there is no blueprint for how to reach the goals.

These three different approaches have a fundamental influence on the question what Centres 'can and should do', and also very dominantly influences how 'governance' should be seen in this perspective. Within the first perspective, it seems self-evident that all activities should primarily benefit the education process, and governance should be aimed at the education institution as primarily responsible. The business is mostly seen as a supplier (of knowledge) and customer (of students). Within this perspective, it is useful to measure the output of schools (e.g. added diploma value, comparison of inflow and outflow, number of associate degrees, etc.). The second perspective implies a steering role of businesses; for example, decisions about the curricula and how many students should be educated within a certain sector should be in the hands of (organised) businesses. This perspective mainly focuses on the insurance that education and businesses are incentivized (or, as some propose, forced) to coordinate their actions and schools should prioritise business needs.

The third perspective implies a network, where different goals and motives need to be coordinated. Some form of network governance is automatically relevant, and regional actors - like economic or strategy boards - become increasingly important when coordinating between actors (Heemskerk and Zeitlin, 2014). It is also - compared to the other perspectives - relatively vague. There is no easy answer to the question how life-long learning should take place (for example, associate degree, certificates or skills).

The hypothesis within this research is that there has been some policy attempts to shift towards the third perspective of a 'learning economy' (Van Lieshout, 2014). In practice, within higher education,

there has been a slow shift from the first (learning outcome) to the third (triple helix) perspective, with the first perspective is still mostly dominant with teachers and staff. This discussion can be witnessed when reviewing latest reports by the association of Universities of applied science, and policy debates in reports of the WRR, AWTI and Education Council. Within vocational education, the dominant perspective is a combination (or: struggle) between the first and second perspective. This becomes clear when comparing the position of employers associations and the position of the association of vocational education. For example, within this sector there is an institution called 'Vocational Education and Employers Foundation' [give Dutch name], that combines both perspectives (for example, business associations have influence on the content of education through this institution). Given this institutionalised setting, the third dimension of the triple helix remains almost invisible within this sector. Only since recently, this perspective is (scarcely) mentioned in policy reports.

The original concept of the Centres is clearly positioned within the third perspective (De Boer Committee, 2009; Hermans Committee, 2010). The other perspectives however also influence the activities of the Centres and explain the great variety of how the three activities are implemented. For example, following results from a survey under participating businesses, some argued that the main focus is 'innovation by sharing knowledge', whilst other companies focused on 'offering education within practice centres' and 'educating high quality students that have practical knowledge' (Van Rijsewijk, 2015).

In practice, a Centre needs to deal with;
> The educational perspective (for example, an inspectorate focusing on contact hours or added diploma value);
> The business perspective (for example, complaints of local businesses that they do not deliver enough students in mechatronics); and
> Triple-helix organisations that expect a 'knowledge role in the region', and also values activities that are less tangible.