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To cite this article: Albert Meijer & Jorrit De Jong (2019): Managing Value Conflicts in Public Innovation: Ostrich, Chameleon, and Dolphin Strategies, International Journal of Public Administration, DOI: [10.1080/01900692.2019.1664568](https://doi.org/10.1080/01900692.2019.1664568)

To link to this article: <https://doi.org/10.1080/01900692.2019.1664568>



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Published online: 16 Sep 2019.



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Managing Value Conflicts in Public Innovation: Ostrich, Chameleon, and Dolphin Strategies

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ABSTRACT

This paper develops a theoretical understanding of the management of value conflicts in public innovation. Drawing from the literatures on public values and on public innovation, various strategic approaches to managing conflict are discussed, conceptualized, and applied to two cases. The paper identifies three basic approaches for dealing with value conflicts: avoidance (ostrich strategy), coping (chameleon strategy) and learning (dolphin strategy). This model is used to analyze two technological innovation processes in the Netherlands, showing its value for empirical research. The paper concludes that continued high-level deliberation can impede innovation processes while local experimenting may support learning about value conflicts.

KEYWORDS

Public values; value conflict management; public innovation

Introduction

Innovation, by its own nature, generates a break with the *status quo* (Lynn, 1997), resulting in contest and destruction (Schumpeter, 1944) and in clashes among the values upheld by people, organizations and society. In the public realm, traditional bureaucratic structures are ill-prepared to manage those value conflicts, often posing a barrier to the innovation itself (Cels, de Jong, & Nauta, 2012). Understanding the strategies to manage value conflicts and their relationship to innovation processes becomes thus essential to fulfill the promises of public-sector innovation.

Public-sector innovation has, indeed, gained great traction throughout the world, with many governments showing an unflagging interest in the concept (Borins, 2014). New policy ideas, management practices, information technologies, and institutional arrangements are emerging in policy fields as diverse as policing, environmental affairs, education, and healthcare (Albury, 2005; Hartley, 2005; Sørensen & Torfing, 2011). In parallel to these developments, a rapidly growing literature has studied the types of public innovation and its governance implications (Altshuler & Behn, 1997; Moore & Hartley, 2008; Torfing & Triantafillou, 2016), as well as its drivers and barriers (Damanpour, 1991; Meijer, 2014). These determinants of innovation have been classified as environmental, organizational or personal factors (De Vries, Bekkers, & Tummers, 2016), such as the institutional settings in which they occur and the role of

leadership during the course of innovations (Borins, 2002; Doig & Hargrove, 1987).

This evolving interest in the complexities of the phenomenon of public innovation has also been reflected in a move from a focus on innovative *solutions*, to a growing interest in the *process* of developing, testing and implementing innovations both in practice (Bason, 2010; Nesta, Vona, & Nicolli, 2014) and in the academic literature (Bekkers, Edelenbos, & Steijn, 2011; Hartley, 2005; Osborne & Brown, 2005; Sørensen & Torfing, 2011; Walker, 2006).

The focus on innovation as a complex phenomenon has also seen the role of values emerge as a cross-cutting theme, with recent works explicitly taking into consideration its central role in the process of innovation (Cels et al., 2012; Hartley, 2005; Hartley, Sørensen, & Torfing, 2013). Values are embedded in the contextual factors as well as in the behaviors of the organizations and persons involved in the process of innovation. Both their content and the conflicts among values that emerge during the different stages of ideation, creation, adoption and diffusion will determine the range of possibilities and alternatives that are explored and chosen. Joseph Schumpeter's (1944) seminal work on the forces of innovation and "creative destruction" already acknowledged the conflictual nature of these processes, and yet, the academic literature has dedicated scant attention to how the strategies to manage these conflicts fundamentally shape innovation processes in the public sector.

The lack of thorough treatment of value conflict management in public innovation is particularly striking since traditional hierarchical bureaucratic approaches to resolving value conflicts based on specific rules and oversight can become a substantial barrier to innovation itself (Longo, 2008; Torfing & Triantafillou, 2016). Managing value conflicts is crucial to aligning interests and securing support for the legitimacy of the process, and therefore, innovation not only fundamentally provokes value conflicts, but the mechanisms to deal with such conflicts will determine whether public innovation is either fostered or hampered.

There has not been a systematic conceptualization of value conflict management in the public innovation literature, resulting in little theoretical guidance – and even less empirical research. This gap is addressed by developing a theoretical understanding of value conflicts in public innovation and how to manage them. Building off other literatures that have addressed value conflicts in the public sector more generally (Borins, 2012; De Graaf, Huberts, & Smulders, 2016; Koppenjan, Charles, & Ryan, 2008; Thacher & Rein, 2004; Van der Wal, 2016) or explored the need to incorporate ethical considerations in the process of technological innovation (European Commission, 2013; Taebi, Correljé, Cuppen, Dignum, & Pesch, 2014) a taxonomy is developed for empirical research into the strategic management of value conflicts in public sector innovation.

After developing the taxonomy, the empirical section presents two cases of innovation in the Netherlands to explore the way in which the management of value conflicts in public sector innovations influences the innovation process. The two selected cases are aligned with the trends in worldwide government innovations identified by the Organisation for Economic Co-operation and Development (OECD, 2018) and were chosen due to the authors' comprehensive knowledge and recording of the innovation processes. The purpose of this empirical application is to respond to the question *how do different approaches to value conflicts in public innovations influence the dynamics of the innovation process?*

To do so, the next section first interrogates the current literature and develops the taxonomy. The paper then turns to the empirical application of the theory through a structured analysis of the two cases, and the final section presents the conclusions of our research.

Theoretical basis of the conceptual taxonomy

The taxonomy for analyzing value conflicts in public innovation is based on theories of innovation and on

managing value conflicts. Sørensen and Torfing (2011, p. 849) define innovation as the “intentional and proactive process that involves the generation and practical adoption and spread of new and creative ideas, which aim to produce a qualitative change in a specific context”. This qualitative change derives from public innovation's condition as a *value proposition*, in the sense that it promises to “satisfy some kinds of desires and operate in accord with some kinds of perceptions” (Moore, 1995, p. 52). Because it satisfies some kinds of desires – and not others – it is associated with conflict around values. A tension that is aggravated by innovations' disruptive nature which entails breaking with the status quo (Lynn, 1997). Given this conflictual nature, a successful innovation process depends on the innovator's ability not just to develop a good idea and make it functional, but also to align interests, secure support, and build legitimacy for the proposed changes (Bason, 2010; Bekkers et al., 2011; De Vries et al., 2016).

Value conflicts and the legitimacy of public innovation

Values, understood as the qualities appreciated for, contributing to, or constituting what is good, right, beautiful, or worthy of praise and admiration (De Graaf & Van Der Wal, 2008), are inseparable from the public realm (Beck Jørgensen & Bozeman, 2007). One could argue that the main objective of public activity is in fact the creation of public value. In his original articulation of the concept, Moore (1995) proposes that public value encompasses the satisfaction of client needs as well as collectively desired social outcomes, in both a material (welfare) and immaterial (justice) sense. Because people evaluate outputs and outcomes of governance from a variety of perspectives, (implicit) value conflicts are inherent to public policy and management. In other words, the creation and evaluation of “public value” is controversial because people have different perspectives, interests and values. The trade-off between efficiency and equality (Okun, 2015) that guides decisions over policies on education (e.g., charter schools in the US) or taxation, for instance, are examples of the perennial value conflicts present in the public realm. At a more specific level, decisions will often entail a determination over which values to uphold and which ones to ignore (at least partially). An organization may conceive its creation public value as increasing functionality through the use of technology, for example by making all data available, but this may compromise privacy rights which may constitute a more important value for other groups', within or outside the organization,

articulation of public value. Empirical research has confirmed this, showing how values affect various forms of public decisions (De Graaf et al., 2016; Larat & Chauvigné, 2017; Mériade & Qiang, 2015; Van der Wal, de Graaf, & Lawton, 2011).

The tension among values is even more salient in innovation processes. Not only is innovation a value proposition (Moore, 1995), but it necessarily entails a qualitative change (Sørensen & Torfing, 2011), which destroys what exists (Schumpeter, 1944) or at least generates a fracture with the past (Lynn, 1997; Osborne & Brown, 2005). The emergence of the new opens the range of possibilities regarding both material and immaterial societal outcomes (Moore, 1995), creating fertile ground for different perspectives, interests and values to clash in new ways. Indeed, the value conflicts occurring in one of the most disruptive domains, technological innovation, has led policymakers and researchers to call for the need to “effectively evaluate both outcomes and options in terms of societal needs and moral values” (European Commission, 2013, p. 3) and the “timely and proactive identification of potentially conflicting values” (Taebi et al., 2014, p. 121) in innovation processes.

These ideas, embedded in concepts such as “responsible innovation” and “value sensitive design,” already show a particular stance regarding the effect of value conflicts in innovation processes. These approaches defend that considerations regarding values need to be integrated as “functional requirements” (European Commission, 2013, p. 3) and value conflicts identified early on so that they can be reconciled in the design process (Taebi et al., 2014), the basic idea being that all values can be incorporated in the design of innovations. Other authors (Hellberg & Gronlund, 2013) warn against focusing too strongly on value conflicts in early stages because it can hinder innovation. Instead, they argue for introducing innovations incrementally: “These changes cannot be clearly defined upfront but must be ‘negotiated’ by means of practical achievements that are considered important enough to motivate gradual changes in the way we implement our values in legislation and practices” (Hellberg & Gronlund, 2013, p. 154).

This reflects the commonly shared view that there are always conflicting or incommensurable values in governance (Bozeman, 2009; De Graaf et al., 2016; Larat & Chauvigné, 2017; Mériade & Qiang, 2015; O’Flynn, 2007; Oldenhof, Postma, & Putters, 2014; Van der Wal et al., 2011; Williams & Shearer, 2011). Thus, value conflicts are not to be simply integrated in or avoided as obstacles to innovation, but rather managed or even utilized for fine-tuning innovation. Since

the number and intensity of conflicts and the failure to identify potential conflicts are the biggest risk to innovation processes, developing a perspective that treats value conflicts as part of the (inter)organizational reality and that provides a framework to think about managing that reality becomes imperative.

Managing value conflicts in public innovation:

The bureaucratic form has become the most widespread model of rational and legal policymaking, but his main theorist – Max Weber – already realized that its advantages in terms of efficiency were inseparable to its limitations for freedom and creativity. One of the reasons why traditional hierarchical administrative models are not prone to innovation is their difficulty to deal with value conflicts. Weber’s “instrumental rationality” – finding the most efficient means to achieve a certain end – is of little help when the issue at hand involves resolving a conflict between two values (Thacher & Rein, 2004). Managing the value conflicts derived from innovation processes require, therefore, a different set of strategies than the ones provided for by traditional governance structures.

The strategies identified by the literature that studies value conflicts in public policy can be placed in a spectrum that goes from the avoidance of the conflict to its embracement. In one extreme, when faced with a conflict, organizations can use denial (either deny or ignore the conflict and its stakeholders or seek to reframe destructive consequences) or hiding (actively hide aspects of the innovation from stakeholders in order to avoid controversy and conflict) strategies. The denial strategies receive little attention in the literature, probably because they are not seen as desirable.

On the opposite side of the spectrum one can find strategies that embrace value conflicts. There are two main strategies in this category, that can be referred to as “learning” strategies: reconciling and deliberation. *Reconciling* builds upon the practice of technology assessment and uses the analysis of value conflicts to improve the value proposition of the innovation (Van Eijndhoven, 1997). It embodies the notion of responsible innovation (European Commission, 2013), using value conflicts to revise the innovation and reduce conflict. The second strategy, *deliberation*, orchestrates an inclusive public or political discussion about value trade-offs. Fung and Wright (2001) have argued that deepening democracy is a matter of shaping the deliberative space in order to bring the most relevant knowledge and the most affected stakeholders together in the most appropriate forum. The more inclusive strategy can help broaden support and solve problems by tapping into the creative potential of the public.

Along the spectrum between the avoidance and the embracing extremes, there is a variety of coping strategies that organizations apply when faced with value conflicts. Most of the conceptual work to categorize these strategies comes from public policy domains other than public innovation (e.g., policing, retirement policy, etc.), but the coping strategies may be useful or familiar to innovators: (a) *Cycling*, with policy actors focusing on each value sequentially, emphasizing one value until another value is significantly violated (Thacher & Rein, 2004, p. 463); (b) *Incrementalism*, or stepped change, which dampens opposition while signaling longer-run intentions (Stewart, 2006, p. 190); (c) *Hybridization*, a strategy that involves maintaining multiple policies or practices with different values bases (Stewart, 2006, p. 188); (d) *Casuistry*, a strategy of case-by-case decision-making, typically using analogical reasoning (Thacher & Rein, 2004, p. 464); (e) *Firewalls*, structural separations that accommodate new or different policies within organizations without exposing officials to value conflicts (Thacher & Rein, 2004, p. 469); and (f) *Bias*, which entails using power strategically and tactically to exclude certain values from decision-making processes (Stewart, 2006, p. 190).

In line with Cornelissen (2005), metaphors are used to visualize the core characteristics of various strategies. Avoidance (“ostrich”) strategies are closed and conflict-averse. These strategies are often used when the intensity of the conflict is low or when public institutions feel unable to manage the conflict properly. Learning (“dolphin”) strategies are open and embrace multiple perspectives. They seek to use deliberation and engagement to learn about the conflicting values and explore potential avenues to find common ground and reasoned solutions to trade-offs. These strategies denote a level of maturity of public organizations, since they require the individual and organizational capabilities to manage a fairly intense engagement and learning process. Coping (“chameleon”) strategies take an intermediate position: they are open to the extent necessary to advance the innovation process. These

strategies are often reactive responses to the context, when conflict cannot be avoided but the willingness to engage is low.

Closed strategies enshrine a commitment to the values that have already been incorporated in the innovation while more open strategies invite other values to figure in the innovation (Berman & West, 2012). In particular, “dolphin” strategies offer an opportunity to use value conflicts more constructively (Taebi et al., 2014) by reflecting upon the innovation and assessing whether it can be fine-tuned to mitigate conflict. This is key to find sustainable, long-term solutions to value conflicts (Steenhuisen, 2009), and to capitalize on the drive for innovation that derives from dissonance arising from competing assessment of worth (Stark, 2009) – as shown by the control mechanisms emerged from competing values on nuclear energy and safety (Shrader-Frechette, 1980). The three sets of strategies are summarized in Table 1 below.

All strategies aim to secure support for the innovation: support can be obtained by attending to the loudest voices (cycling), by moving slowly to build trust and legitimacy (incrementalism), by introducing the innovation as a supplement to existing practices (hybridization), by judging on the basis of case similarities (casuistry), by assigning responsibilities to different departments in the organization (firewalls), by emphasizing certain values (bias), by changing the innovation to reflect the values of various stakeholders (reconciliation), by exploring concerns and mutual gains (deliberation), by ignoring the stakeholders opposing the innovation (denial) or by concealing controversial elements of the innovation (hiding). Innovators and their organizations do not necessarily choose between them. They may use various strategies *in parallel* to tackle particular value conflicts or *sequentially* at different stages in the innovation process. New strategies may emerge because others did not deliver the desired effects or because the value conflict manifests itself in a new way.

A successful strategy advances the process of innovation from idea generation to implementation and

Table 1. Strategies for dealing with value conflicts.

Less open to arguments of opponents ← → More open to arguments of opponents		
Ostrich Strategy: Avoidance	Chameleon Strategy: Coping	Dolphin Strategy: Learning
<ul style="list-style-type: none"> • Denial (“there is no conflict”) • Hiding (“nobody will find out”) 	<ul style="list-style-type: none"> • Cycling (“let’s see how far we get”) • Incrementalism (“we’re only taking small steps”) • Hybridization (“we’ll learn to live with ambiguity”) • Casuistry (“let’s judge on the bases of case similarities”) • Firewalls (“let’s assign responsibilities to different departments in the organization”) • Bias (“let’s emphasize certain values”) 	<ul style="list-style-type: none"> • Reconciliation (“let’s have another look at the innovation to incorporate conflicting values”) • Deliberation (“let’s have a conversation about <i>why</i> certain values matter to certain stakeholders”)

diffusion. The theoretical expectation is that avoidance strategies will breed short-term success but create problems in the long term, learning strategies will slow innovations in the short term but generate more long-term support, and coping strategies will strike a balance between short-term progress and long-term sustainability. These general expectations, however, are subject to nuances of the institutional environment (Bekkers et al., 2011; Cels et al., 2012), including formal responsibilities, veto points, stakeholder involvement, media coverage, and regulations, among others (De Vries et al., 2016). The basic assumption is that the strategies that fit the stage of the process and the institutional context will drive the process forward.

The academic understanding of the relationships between characteristics of the institutional environment, such as complexity, level of fragmentation, level of conflict, and the success of certain strategies is still limited, and the research presented here aims to address this. The theoretical understanding is grounded in terms of conflict management strategies, stages in the innovation process, and institutional context, and the empirical case research can provide insight into this complex relationship between strategies, process stages, and institutional context.

Empirical application of the taxonomy

Research strategy

The taxonomy developed above is put to the test through the study of two cases using the analytic methods of George and Bennett (2005), which are well-suited for deep and systematic analysis of contingent dynamics (see also Bennett & Elman, 2006; Collier, 2011). Given the incommensurable nature of values and value conflicts (Thacher & Rein, 2004), the use of in-depth case studies is a particularly well-suited method to analyze and provide empirical grounding to the theory. This also applies to innovation processes and is reflected in the fact that most studies on public innovation are based on qualitative and case-based analysis (De Vries et al., 2016). Although this approach has clear limitations in terms of statistical generalization, it allows for the study of the process and the context, a fundamental feature when dealing with value conflicts (De Graaf et al., 2016).

The approach is based on a *heuristic case study*; the objective is to test the utility of the taxonomy of strategies for understanding why processes succeed or stall rather than to produce generally applicable conclusions (George & Bennett, 2005, p. 79). Following from this research objective, a *process tracing* research strategy is

applied, which “can strengthen the comparison between cases by helping to assess whether differences other than those in the main variable of interest might account for the differences in outcomes” (George & Bennett, 2005, p. 81). The key variables of the two cases are analyzed in a structured way, by applying the following questions to each case: (1) what was the public innovation and what problem did it aim to solve? (2) what competing values were at stake? (3) What strategies emerged to manage potential value conflicts? and (4) what were the implications of the strategies for the process of innovation?

A variance analysis (George & Bennett, 2005, p. 85) is then conducted in a set of variables: (technological) complexity, public value proposition, and controversy; value conflicts in terms of quantity and intensity; the conflict management in terms of the different strategic options (ostrich, chameleon and dolphin strategies); and the outcome of strategic choices in terms of enabling, hampering, or changing the innovation process. This method is primarily deductive for the value conflicts, strategies and outcomes. Value conflicts are identified when they are perceived as such by several actors, and codes for the strategies are developed based on the sub-categories (see Table 1) and intersubjective assessments of progress are measured in interviews with stakeholders. Finally, characteristics of the institutional environment are coded inductively as little is yet known about these factors.

In the selection of the cases, it was fundamental to identify two cases that had similar conditions and whose main difference laid in the dynamics of the innovation process over the study period. Thus, two Dutch cases of innovation processes that occurred in the same time frame within the same institutional context and under the same political regime are selected. Both cases feature a technology innovation in public services that required collaboration between organizations in multiple policy areas and at multiple levels of government. Finally, in both cases there were multiple values at stake, which led to public and political debate.

The two cases were selected also given the availability of and access to substantive and reliable documentation. This level of access is a condition necessary for any in depth analysis looking to understand the details of an innovation process. A third element that strengthens the justification for the selection of these two cases is their alignment with the trends in government innovations identified by the OECD (2018): (i) building digital identity, (ii) embracing systems and approaches and enablers, and (iii) fostering better conditions for inclusiveness and vulnerable populations. This will enhance the contribution of this paper to the current debate on government innovations across the world.

The first case looks into the introduction of the electronic identity card, and the second one focuses on the design of a national at youth risk index. A summary of the key components of each case is included in Table 2, followed by a detailed description of the cases.

Data collection

The research relied on interviews with key stakeholders and extensive desk research. It started with reconstructing the innovation processes over time and identifying the key actors. In total, twenty-five semi-structured in-depth interviews were conducted. The interviews started with the public officials most involved in the innovation process and proceeded through snowball sampling (Morgan, 2008). For the first case ten public officials were interviewed: four representing the department driving the innovation and six representing other departments or agencies involved. For the second case, fourteen public officials were interviewed: five representing the department driving the innovation and nine representing other departments or agencies involved. In each case, the respondents from the lead departments held policy advisor, head of division, director, and director-general positions. The respondents representing other organizations typically held director positions. All respondents were asked to recount various phases in the innovation process and share their assessment at the time of 1) the innovation and what it represented to various stakeholders 2) value conflicts as they emerged in stakeholder interaction, 3) the responses to these value conflicts. Finally, the respondents were asked to reflect on the process as a whole, in retrospect. All data from the interviews were analyzed for factual accuracy in the recollection of historical events. One cannot be certain that interviewees' post hoc interpretations of specific events matched their understandings at the time, but the respondents were specifically invited to re-formulate their perceptions at the various stages in the process. The desk research used the following sources: (1) official documents from the departments involved and parliamentary proceedings (between 20 and 30 for each case); (2) studies by academic institutions, independent think tanks, and government advisory councils on the innovation (3–5 for each case); and (3) reports in professional magazines and news media on the innovations and the innovation processes. All documents were retrieved through the interviews and keyword internet searches. Document selection was based on reliability of the source and substantive discussion

of the innovation process. All data were analyzed qualitatively to reconstruct the dynamics, and the patterns were analyzed for the four guiding questions.

Case 1: electronic identity card (e-ID)

What was the public innovation and what problem did it aim to solve? In 2001, the Dutch cabinet announced its intention to introduce electronic identity cards nationwide. This was part of a comprehensive agenda to increase the effectiveness and efficiency of public services and improve transactions between government, citizens, and businesses. After intensive debates about the costs, the Ministry of the Interior finally started contracting out the development of the “e-ID” in 2007. In 2011, however, the effort stopped short when fraud was discovered within the national digital authorization system (DigiD), a court ruled that the e-ID project had been wrongly contracted, and several government security systems were hacked. As criticism mounted, the RDW, the Dutch Vehicle Inspection Authority, proposed to pilot the e-ID by introducing digital signatures on driver's licenses. This would not only greatly improve the efficiency of citizen-government transactions on vehicular matters but could eventually enable more efficient transactions in both the public and private sectors.

What competing values were at stake? The RDW, a semi-autonomous agency under the Ministry of Infrastructure and Environment, considered putting a digital signature on around 9 million licenses as a relatively simple technological effort on their side, but needed authorization from the ministry. The ministry, however, was concerned that the RDW was not positioned well to handle the value conflicts associated with a technological innovation spanning multiple policy domains and jurisdictional boundaries: “The governance of this project needs to be crystal-clear,” said the director of mobility policy at the Ministry of Infrastructure and the Environment (r6).¹ “We need to be concerned about the interests of and possibilities for all stakeholders in the policy arena.” In fact, there were three significant value conflicts facing the e-ID developers.

- Effectiveness and efficiency vs. authority and accountability. The digital signature, or e-ID, on driver's licenses would enable a more efficient vehicle registration process, but its implications were far-reaching; introducing an e-ID would entirely overhaul the Dutch identity management infrastructure. Countless governmental organizations and private sector organizations stood to

Table 2. Summary of two case studies.

	What was the public innovation and what problem did it aim to solve?	What competing values were at stake?	What strategies emerged?	What were the implications of the strategies for the innovation process?
Electronic Identity Card (e-ID)	Introduce electronic identity cards nationwide. Increase the effectiveness and efficiency of public services and improve transactions between government, citizens, and businesses	<i>Effectiveness and efficiency vs. authority and accountability</i> <i>Fairness vs. pragmatism</i> <i>Privacy rights vs. functionality</i>	First, Ostrich strategy. Later, Dolphin strategy.	The ostrich strategy failed because the institutional environment did not tolerate the innovators' closed approach. The dolphin strategy also failed because the engagement with stakeholders was too open-ended and the evolution of technology outpaced the learning and reconciliation process, bringing operations to a standstill.
National Youth-at-Risk index	Introduce an information-technology system to register and flag any social service or law enforcement interaction with at-risk youth to promote collaboration among agencies. The system provided a partial answer to three needs: (1) protecting youth from abuse or neglect; (2) improving assistance to struggling families; and (3) protecting citizens against youth prone to violence or crime.	<i>Privacy rights vs. efficiency</i> <i>Equality of treatment vs. effectiveness</i>	First, Ostrich strategy. Later, Chameleon strategy.	The ostrich strategy worked at the beginning of the innovation process, but it was ultimately an inadequate response to the conflict when became the institutional environment stronger, more vocal and more hostile. When the innovation process stalled, the switch to a chameleon strategy moved the innovation forward without properly attending to the value conflicts created problems, but the team eventually engaged the stakeholders in finding solutions through coping strategies.

benefit from the new identification and authentication mechanism. The question was who should lead the development of such a system. On one hand, there was a clear need for government control and oversight. On the other, the private sector, especially financial service providers, had substantially more experience with designing secure electronic identification infrastructure. This debate pitted efficiency and effectiveness against the accountability and authority structure. If the system's development was to remain within the public sector, RDW might be best positioned, but there were questions about the accountability structure. Some felt responsibility for developing the system should lie with public agencies that play a greater part in the accountability structure around identity documents, perhaps within the Ministry of the Interior, the Tax Authority, or the Institute for Employee Insurance (UWV).

- Fairness vs. pragmatism. The introduction of an e-ID through the RDW also raised questions about fairness. Funding for the RDW came from fees from drivers, but also from taxpayers, many of whom did not hold driver's licenses, and some people felt running the e-ID through the RDW constituted an inappropriate use of tax payer's money. Since the additional e-ID feature on the license did not serve a public good such as traffic safety, why should non-drivers who would not reap the benefits, contribute?
- Privacy rights vs. functionality. The Dutch constitution and laws as well as European Union resolutions guaranteed citizens' right to privacy, and the e-ID raised privacy concerns: Who has access to

this information? Who should manage it? How secure is it? A recently introduced chip-based ticketing system for public transportation in the Netherlands had been cracked using household computer equipment, creating huge digital security concerns. What if the e-ID could be cracked just as easily? Furthermore, the private sector's interest in the e-ID for business to consumer transaction purposes increased the system's exposure to digital security threats. Stakeholders debated the appropriate balance between system's scope and the protection of personal information. The larger the scope, the greater the efficiency gains, and the greater the threat to personal data and privacy.

What strategies emerged? In response to the concerns of the Ministry of Infrastructure and Environment about its ability to manage value conflict, RDW stressed the potential efficiency gains and insisted it was willing and able to develop the technology quickly and cost-effectively. Not only would motorized vehicle registrations become more efficient, but other government agencies would also benefit from the instant availability of personal information. The RDW downplayed any downsides, but the ministry instructed RDW to allow the Ministry of Internal Affairs to interact with a coalition of stakeholders (including RDW, Ministry of Infrastructure and Environment, Tax Authority, and other agencies): "If a semi-autonomous agency [like the RDW] assumes a role as social entrepreneur beyond its mandated legal tasks on such complex issues, accidents may happen. At the very least, you have to design some base rules. You have to design the process appropriately

upfront” (r6). In this spirit, the Ministry of Infrastructure and Environment proposed that the Ministry of Internal Affairs, which held responsibility for national ID cards, rather than the RDW would be the appropriate leader. RDW became one of the stakeholders in a broad coalition under the auspices of the Ministry of Internal Affairs to develop the e-ID. The idea was that the stakeholder coalition could address and resolve the value conflicts to develop a more sophisticated and legitimate innovation, but instead the development of the e-ID came to a screeching halt. Responsibility for leading the effort passed to the Ministry of Internal Affairs, and the coalition of stakeholders made another start, but stalled again in 2013 amid debate about the legal framework for protecting privacy rights and the proper scope of the proposed e-ID system. As of the writing of this paper, more than 10 years after the e-ID was proposed, value conflicts continue to stymie the effort.

What were the implications of the strategies for the innovation process? The initial reluctance of RDW to consider value conflicts and downsides of their innovation is textbook *ostriching*. This strategy failed in the strong, vocal, and risk-averse institutional environment, where questions about the accountability structure in particular created much resistance. The Ministry of Infrastructure and Environment’s move to embrace a *dolphin strategy* focused on stakeholder engagement and learning, however, stopped the process in its tracks. While stakeholders debated, technological advances required the continual revision of designs and frameworks. Evolving concerns around digital security and selecting the appropriate party to implement the system seem to have paralyzed the effort. As the former RDW director noted, “It is typically Dutch to wait for the best solutions and the most secure technology, but we paralyze ourselves with that attitude. You can compare it to a house that you want to secure against theft. The most secure solution is to have no windows and doors, but it is difficult to live in such a house” (r7). The ostrich strategy failed because the institutional environment did not tolerate the innovators’ closed approach. The dolphin strategy also failed because the engagement with stakeholders was too open-ended and the evolution of technology outpaced the learning and reconciliation process, bringing operations to a standstill.

Case 2: national youth-at-risk index

What was the public innovation and what problem did it aim to solve? The discovery of the body of a young girl, a victim of persistent domestic abuse, on a beach in the Netherlands revealed the tragic results of poor

coordination among agencies working with youth at risk. Nobody had reported the girl missing. Her mother and her mother’s boyfriend had told her previous school they were moving, and the school was not obliged to forward any records to her new school. Her absence went unnoticed.

The incident sparked intense debate about improving youth-at-risk care and, more specifically, inter-agency collaboration. In this environment, policy-makers developed the idea of a national “Youth-at-Risk Index.” The aim of this information-technology system was to register and flag any social service or law enforcement interaction with at-risk youth to promote collaboration among agencies. This was a new way of organizing interactions between various agencies. If two agencies reported interaction with the same youth, each would receive an e-mail from the system to enable them to coordinate their approach. The system provided a partial answer to three needs: (1) protecting youth from abuse or neglect; (2) improving assistance to struggling families; and (3) protecting citizens against youth prone to violence or crime. In 2004, parliament approved the development of the Youth-at-Risk Index. The Ministry of Health was charged with developing the system.

What competing values were at stake? As a technical matter, the initiative seemed to be “the easiest thing possible” according to the director at the Ministry of Health (r3). However, a heated public debate quickly arose. “Nobody had thought about systems, laws and privacy,” (r3). Most of the controversy centered around two basic value conflicts.

- *Privacy rights vs. efficiency.* The national index sought to promote youth rights to adequate living standards, protection from harm, healthy development, and healthcare. These basic rights are written in the Dutch constitution and formed the philosophical ground for the development of the index. Yet, the development of the system raised concerns about privacy protections. Who would have access? Who could edit data? How would the information be handled? Would it lead to profiling of youths to the detriment of their independence or, worse, their development? The Dutch Data Protection Authority (CBP) challenged the development team to think more deeply about the grounds for notification in the system, the types of notifications permissible, and the actors entrusted with editorial authority. It was clear from the start that the index could facilitate more efficient

delivery of aid to youths, but sharing information compromised children's right to privacy.

- *Equality of treatment vs. effectiveness.* Several years into the system's development, debate ignited about reporting ethnicity in the index. The Ministry of Housing, Districts, and Integration had been developing its own index to track at-risk Antillean youth. According to an official at the ministry, "after starting to work with different agencies in one city, [Antillean youths at risk] often disappear and ... resurface in other cities." (r7). Because of this, Antillean youth were deemed a particularly hard-to-track group. Municipalities hoping to track and aid the development of these youth pushed to integrate the two indexes by adding a field to report ethnicity. The Antillean community resisted this move, arguing that it constituted racial profiling and violated the first article of the Dutch constitution, which guarantees equal treatment.

What strategies emerged? The development team at the Ministry of Health first denied the conflict. They largely ignored the CBP's recommendation to restrict the pilots to a few cities, allowing a large number of interested cities to participate. Consensus on the team was that the large number of pilots would drive the project forward: "We'll see how far we get with this without running into trouble" (r1). The team paid lip service to the CBP's recommendations regarding privacy by limiting the initial functionality of the system to allow a limited number of actors to report just a few objective indicators, but after consultation with other stakeholders at the local and national levels of government, the team decided to develop a relatively open system. This adaptation evaded underlying questions about the legal foundation of the system. Thus, when the CBP reviewed the system and accompanying laws, they were dismissed as too broad and vague. According to the CBP, anyone could make notifications in the system on an arbitrary basis: "In theory, even a child with a speech impediment can be reported in the system" (r3). Neither were the criteria for notifications clear.

The development team had to return to the drawing board, and the ministry switched to a more accommodating strategy. To attend to the concerns around privacy, the team expanded the proposed law to incorporate CBP's recommendations. The new version of the law stipulated who had authority to make notifications in the system and on what grounds. The new version of the law relied on the notion of "societal urgency" of the government's responsibility to create opportunities for youths to develop fully, articulated in

the Convention for the Rights of Children, as a legal rationale for the index. Ultimately, the development team used a hybridization approach to respond to the CBP's concerns: it incorporated the recommendations on authorized use and privacy protection even as it doubled down on the imperative to better serve youths through data sharing and collaboration. These values were both expressed in the law, but did not immediately alter the system. Rather than fully engaging with CBP on how the value tradeoffs could be resolved or transcended, the team recognized CBP's values and concerns and allowed them to co-exist with the values that had informed the development of the innovation system. This approach satisfied the CBP but left some ambiguity and issues to be resolved in practice.

The team initially denied the other value conflict as well, simply rejecting the request to integrate an ethnicity field in the system. The system was already controversial enough, and including ethnicity would hurt the law's chances in the senate. Pragmatic considerations rather than principles informed the strategy. Nevertheless, local practices noting ethnicity continued, and when the law was put before parliament in July 2009, a parliamentarian proposed an amendment to report ethnicity "as long as the youth is exposed to risks that are exceptionally prevalent within certain ethnic groups" (Tweede Kamer, 2008–2009, 26 283, nr. 43). The law was passed to the upper chamber with the amendment in February 2010, and, despite some opposition, adopted in July of the same year.

What were the implications of the strategies for the innovation process? The team's response to value conflicts can be characterized as an *ostrich* strategy: denying or ignoring concerns surrounding the innovation and continuing to push the process forward. Municipalities and aid agencies working with Antillean youths likewise stormed ahead and implemented their own additions to the index. Debate about privacy and equal treatment implications continued in the absence of an adequate legal framework.

After the CBP raised objections around privacy, the team used a *chameleon* strategy to ensure the innovation's short-term success. They allowed interested municipalities to pilot the index while engaging in further political and legal work to prepare for national implementation of the index. At the same time, the team stuck with the ostrich strategy to respond to questions about equal treatment. The success of this strategy can be attributed to the fact that the institutional environment was rather weak, inarticulate, and did not manage to politicize the innovation. By tolerating the bottom-up development of the practice despite concerns around ethnic profiling and privacy the team

essentially allowed stakeholders to find answers to these questions themselves.

This case study highlights the attractiveness of the *ostrich* strategy at the beginning of the innovation process. And ignoring the conflict about equal treatment worked, but *ostriching* was ultimately an inadequate response to the conflict about privacy as the CBP's objections made the institutional environment stronger, more vocal and more hostile. When the innovation process stalled, a *chameleon* strategy was needed. Moving the innovation forward without properly attending to the value conflicts created problems, but the team eventually engaged the stakeholders in finding solutions through coping strategies.

Conclusions

Current interest in the research and practice of innovation processes has fostered the need to analyze value conflicts and the strategies organizations use to manage those conflicts. Managing public value conflicts is crucial for improving the quality of innovations, enhancing their legitimacy, and driving the implementation process forward (Bason, 2010; Bekkers et al., 2011; De Vries et al., 2016; Sørensen & Torfing, 2011). Traditional bureaucratic structures are seldom fit to deal with these value conflicts, too often hindering innovations rather than enabling them. Given these limitations, works from various disciplines (from public policy to technological innovation) have analyzed the strategies to manage such conflicts. Building upon the literature on managing value conflicts (Stewart, 2006; Thacher & Rein, 2004), the ways in which organizations deal with value conflicts were categorized in three patterns: avoidance (“the ostrich strategy”), coping (“the chameleon strategy”), and learning (“the dolphin strategy”).

The empirical application of this taxonomy to two cases allowed us to explore the following research question: how do different approaches to value conflicts in public innovations influence the dynamics of the innovation process? The research shows that innovators, consciously or unconsciously, often employ multiple strategies, adjusting course over time as circumstances change. This may lead to a sequencing in the application of strategies. Some strategies may be more effective than others, and embracing a given strategy – at least for a period of time – may be necessary, though not sufficient for success. Other findings have several implications for current and future research and practice on public innovation.

First, organizations' need to be aware of the sequencing in the application of value conflict management

strategies, because the ability to employ different strategies may be affected by path dependency. After employing a dolphin strategy, for example, it is likely impossible to revert to an ostrich strategy without trashing stakeholder relations. And even if it were possible to push the innovation through with heads back in the sand, the quality and legitimacy would likely suffer. Chameleon strategies look like the safest bet, as they occupy a middle space, accommodating stakeholders while containing complexity and controversy. Some chameleon strategies might be perceived as too tentative, too manipulative, or too risky, but they ultimately make pragmatic decisions about who to engage around what, when, and how, depending on the context, stakeholders, and circumstances.

Second, the research therefore shows that the design of the innovation *process* is critically important, and that the institutional context significantly affects innovators' room to maneuver. Organizations need to be aware of this context and the process' design during the innovation. Yet, even if the choice architecture has an impact, the cases also showed that significant opportunity remained for strategic choices by public innovators.

Third, counter to expectations, the research shows that continuous deliberation about value conflicts may be damaging to public innovation processes: a dolphin strategy may require experimental space where options can be tested rather than merely debated. Considering stakeholder interests and underlying values and choosing strategies that help society adapt to and engage with opportunity could help produce desired social outcomes more effectively, efficiently, and responsibly. However, rapid technological, economic or political changes may not be compatible with prolonged reconciliation and deliberation. The cases suggest that continued high-level deliberation can impede innovation processes while local experimenting may support learning about value conflicts. This aligns with literature on transitions to sustainability, which suggests that a more action-focused approach – experimentalism – may create room for a learning strategy amid technological turbulence (Sengers, Wiczorek, & Raven, 2016). “Experimentation” was added to reconciliation and deliberation as a learning strategy. The challenge for innovators is to be as open-minded and learning-oriented as dolphins while being as careful and protective as ostriches, who, after all, put their heads in the sand to turn the eggs in their nests!

Given the research strategy of the paper, there are limitations to the statistical generalization of these conclusions, but it opens the way for further inquire, research and reflection on the management of value

conflicts in public innovation by providing a conceptual scaffolding. A next step in the empirical research is to find a case in which the dolphin strategy is applied from the start, and to study the dynamics of this strategy. This will help to develop a further understanding of how this strategy manifests itself and how it influences the innovation process. Another avenue for advancing knowledge would be to perform quantitative research using the taxonomy developed in this paper to investigate the relationships between strategies for managing value conflicts and the progress of innovation in different institutional contexts. Further research could also address the nature of the choice process, and what conditions contribute to the success or failure of particular approaches. Finally, the question of how aware innovators are of the consequences of strategic choices and how carefully they evaluate strategic alternatives also merits further study.

Note

1. Quotes from respondents will be cited as 'r1' for respondent one, and so forth.

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