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Theoretical Insights

Investigating how governmentality and governance influence decision making on projects

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ABSTRACT

The literature on project governance suggests an association between good governance and project success. However, the mechanism is not known. It is suggested governance and governmentality influence six psychological constructs, and through them, decision making, and project performance. The six constructs are culture, decision architecture, naturalistic decision making, group working, identity, and social representation. We review six case studies to explore the link between governmentality and governance and the six constructs, and their influence on decision making and project performance. Secondary data were used, using six previously published case studies. We find the six constructs influence decision making and project performance. Thus, we confirm earlier research, to suggest that good governance does often lead to improved project performance and the link is via decision making. Governance creates an environment in which good decisions can be made on projects and assigns competent people to leadership positions.

1. Introduction

Turner (2020) conducted a survey of papers on project governmentality and governance published between 2014 and the present in the three main project management journals: the International Journal of Project Management; the Project Management Journal; and the International Journal of Managing Projects in Business. Several papers suggest good governance is associated with good project performance, but the mechanism which creates the link is not known. Turner (2020) suggested the link may be via good decision making. He proposed that governance may influence six psychological constructs, and they in turn would influence decision making and thence project performance. The six psychological constructs are: culture; decision architecture; naturalistic decision making; group working; identity; and social representation. The research model is shown in Fig. 1. The six psychological constructs are defined in Table 1. Also shown are key elements identified by Turner (2020). The six constructs were identified through discussion with Reader (2019).

We need to be careful. Correlation does not necessarily imply causation. Turner (2020) was investigating where governance influences the six constructs, and they influence decision making and thence project performance. However, MacCormick (2019) says that sometimes governance influences culture and sometimes culture influences governance. We will find later with one of the case studies we study that poor organizational culture causes poor governmentality and also poor decision making and thence poor project performance. So poor governance is correlated with poor performance but does not cause it. Turner also identified that the authors he reviewed sometimes suggest that governance is a moderating variable, as shown in Fig. 1, so governance might moderate the relationship between the six constructs and decision making, or decision making and project performance.

In this paper we review six case studies, to explore the relationship between governmentality and governance and the six psychological constructs, to identify how the constructs influence decision making on projects, and how governmentality and governance influence project performance. The research questions explored in this paper are:

RQ1: How do governance and governmentality and the six psychological constructs interact with each other?
RQ2: How do the six psychological constructs influence decision making on projects and thence project performance?
RQ3: How do good governmentality and governance lead to improved project performance?

We define governance and governmentality on projects. We then introduce the methodology. The fourth section describes the six case

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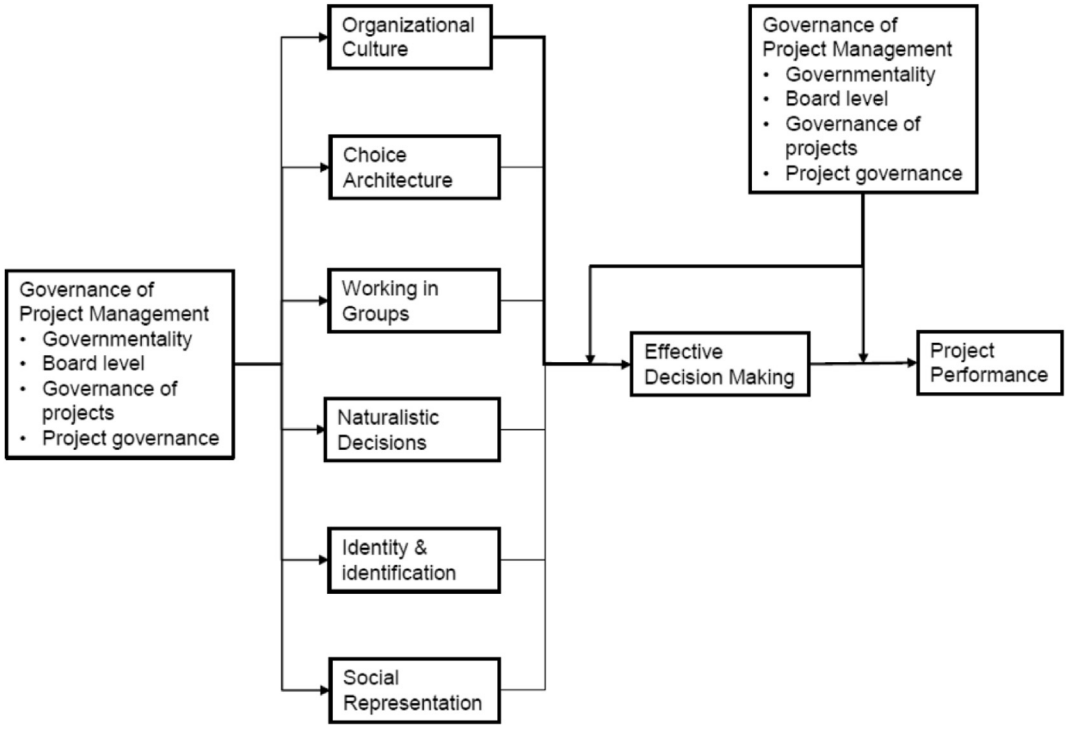

Fig. 1. Research model.

studies, followed by a discussion of the findings. The paper closes with conclusions.

2. Governance

Based on Müller (2017, 2019a), Turner (2020 gave a clear definition of four levels of the governance of project management:

1. Governmentality, (Dean 2010, see Table 2),
2. The board, often called the governance of project management, (APM, 2004),
3. The project context, including project programs, portfolios and networks, often called the governance of projects,
4. The project, often called project governance

Governmentality is strictly human agency, and the rest of governance structure, Table 2, (Müller, 2019a), but Dean (2010) suggests governmentality is the overarching mechanism from which governance flows, so it is shown as the top level. The four levels together are often called the governance of project management. For the rest of this paper, we refer to governance covering the four levels.

The models for governmentality and governance used are due to Müller, Zhai et al. (2016, 2017), Table 3. They use the three forms of governmentality defined by Dean (2010): authoritarian; liberal; neo-liberal. They also identify three precepts of governmentality: emphasizing: organizational values; process adherence; and project well-being. For governance they identify sovereignty, with three levels, low, medium and high, mechanisms based on control or trust, and the number of governance institutions as low, medium and high. They also use the four governance paradigms defined by Müller (2009), based on whether the organization optimises results just for the shareholders or a wider range of stakeholders, and based on whether the organization controls staff by behaviours or results.

3. Methodology

This is a conceptual paper, where we aim to use case studies to illustrate the concepts developed by Turner et al (2010). Six case studies are reviewed: two computer projects; two construction projects; and two organizational change projects, so we have two projects from each of the three project types suggested by Müller and Turner (2007). We use secondary data, reviewing six previously published case studies. The author had no role in writing any of the case studies. Three of the case studies were readily available, (Turner et al., 2020). The first describes a failure, and we were able to find a case describing the successful implementation of that project output at a fourth attempt. That left us needing to find one more construction project and one more organizational change project. We searched through the International Journal of Project Management back to (2010).

In each case study we focus on one or two decision. The six case studies, and decisions reviewed are:

1. The first, second and third attempt at the computerisation of despatch in the London Ambulance Service, LASCAD1, 2 and 3. The decision focused on in LASCAD1 is the decision to cancel the project, in LASCAD2 the decision to let the contract, and in LASCAD3 the decision to commission the project. These could be considered three projects, but a) they failed for very similar reasons, and b) LASCAD2 and 3 can be considered to be the same project. In the month it should have been commissioned, January 1992, LASCAD2 was failing, so it was reconfigured with the same team, the same design and the same contract, and the delivery date reset as the 26th October 1992.
2. The fourth and successful attempt at the computerisation of despatch in the London Ambulance Service, LASCAD4, and one project within what was now treated as a program, the computerisation of call taking, CTAK. The decision focused on is the decision to create a Golden Circle to deliver CTAK, and the use of prototyping within the Golden Circle to develop the system.
3. The construction of the Amsterdam North-South Line, and the decision to change the governance structure from one where the project was a contractor to the city council, with a principal agency relationship between them, to one where the contractor was a department of the city council, working under a stewardship approach.
4. A Swedish rail tunnel, and the creation of the project organization

Table 1
The six psychological constructs.

Culture	Observed behavioural regularities when people interact		Schein and Schein (2017)
Three dimensions of organizational culture	Artefacts	Visible structures and processes Behaviour	Schein and Schein (2017)
	Espoused beliefs	Goals, values Ideologies Rationalizations	
	Basic understandings	Unconscious beliefs influence behaviour	
Decisions	Behavioural norms Judgement norms Perception of risk Risk choices		Weber and Hsee (2000)
Choice architecture	Governance should create an environment in which people make decisions in the best interest of the organization.		Dolan et al. (2010)
EAST	Easy Attractive Social Timely		Dolan et al. (2010)
Governance paradigm influences decisions	Stakeholder vs shareholder school		Müller, Turner et al. (2014, 2016)
	Outcome vs behaviour control		Turner and Müller (2017)
Naturalistic decision making	How people make decisions in real-world contexts that are meaningful and familiar to them		Lipshitz et al. (2001)
Characteristics	Process orientation Situation-action matching Context bound informal modelling Empirically-based prescription		Lipshitz et al. (2001)
Situational awareness	Perception of risk Risk choices Situation-action matching Process orientation		Endsley (1995) Reader & O'Connor (2014)
Mental models	Macrocognitive phenomenon Mental simulation Schemas of how things work Identify workable solutions		Rouse and Morris (1985) Crandal et al., 2006
Group working	Two key ways decision-making in groups and teams can be improved: improving team working; supporting the development of schemas and reducing occurrence of team biases		Haslam (2004)
Team formation and maintenance	Inputs	Tasks Norms Attitudes Characteristics	Reader et al. (2009)
	Processes	Communication Coordination Leadership Decisions	
	Outputs	Achievements Creativity Satisfaction Well-being	
Group biases	False consensus Group think Polarization Escalation of commitment		Jones & Roelofsma (2000)
Identity	Our sense of belonging to a group that leads to specific cognitive and behavioural responses		Haslam (2004)
Belonging	Cognitive – the group exists Evaluative – I want to be a member Emotional – I like being a member		Tajfel (1982)
OECD Principles	Transparency Accountability Responsibility Fairness		Millstein et al. (1998) Müller (2017)
Roles	Roles Responsibilities Authorities Relationships		DeFillippi and Sydow (2016) Lappi et al. (2018)
Social representation	A system of values, ideas and practices which establishes an order for individuals to orientate themselves and to enable communication		Moscovici (1973)
Orientation	Identity Communication Social position Group dynamics Anchoring – discursive abilities Objectification – process facilitators		Moscovici (1973, 2000)
	Governance – social exchange Governmentality – social cohesion		Müller Pemsel et al., (2014, 2015)

Table 2
Positioning governance, governmentality, management and leadership (after Müller, 2019b),

	Human Agency	Structure
Steering	**Governmentality:** The way governors interact with those they govern. • Mentalities, rationalities, ways of interaction Ways chosen by those in governance roles to implement, maintain, and change the governance structure	**Governance:** Framework for managers to do work • Structures, policies, processes etc. • Ways mangers are held accountable for their work
Executing	**Leadership:** People oriented activity to accomplish project objectives	**Management:** Goal and task-oriented activity to accomplish organizational objectives

Table 3
Governmentality and governance.

Governmentality			
Approach	Authoritarian	Authoritative style Centralised decision Process compliance High power-distance	Dean (2010)
	Liberal	Control by goals Economic rationale Flexible structure	
	Neo-liberal	Self-control Focus on values Collective interests Consent Management for stakeholders	
Precept	Organizational values Process Project well being		Müller et al. (2019)
Governance			
Sovereignty	Low	Project manager as employee Follows orders No control of resources	Müller (2019)
	Medium	Project manager as manager Assumes some decision making	
	High	Project manager as entrepreneur Takes risks Shares resources	
Mechanisms	Control	Contractual Agency Compliance over experience	Müller (2017)
	Trust	Relational Stewardship Experience over compliance	
Governance institutions	Few	Steering committee Supplier board	
	Medium	Client board PMO	
	Many	Program mgt Portfolio mgt	
Paradigm	Conformist	Shareholder-Behaviour	Müller (2009)
	Economist	Shareholder-Results	Müller and Lecoeuvre (2014)
	Pragmatist	Stakeholder-Behaviour	
	Versatile artist	Stakeholder-Results	

5. The implementation of Antibiotic Sustainability within nine European countries, and the two decisions a) to set achievable objectives rather than a fanciful wish list, and b) the project start-up and coordination.
6. The implementation of Customer Requirements Management in a French telecommunications company, the decision to manage the project as a PSO Project, (Andersen et al., 1987), and the roll-out of the project.

4. The cases

The six case studies are described in this section. Secondary data were used, the six case studies having been previously published elsewhere.

4.1. LASCAD1, 2 and 3

The first project to be considered is the first three and failed attempts at the computerisation of despatch at London Ambulance Service, (Beynon-Davies, 1995; Dalcher, 2010). The London Ambulance Service (LAS) is the largest in the world and is ten times larger than the next largest in the UK. In the mid-1980s, the Operational Research Consultancy (ORCON) introduced a new standard for the performance of ambulance services. This required the issue of instructions to an ambulance within 3 min of the receipt of a call, and for the ambulance to arrive at the scene after no more than 14 min. LAS was unable to meet these requirements. It was therefore decided to create a computer aided dispatch system (CAD). Between 1986 and 1996, four attempts were made. The first three failed; the third resulted in the total failure of the system after commissioning, and the service was immobilized for a day while the manual system was reintroduced. It is believed between 23 and 46 people may have died as a result.

The first attempt was intended to computerize call receipt and dispatch but was extended to include vehicle location without a change to the time or budget. After a year's delay, the project was started in May 1987, and was expected to cost £2.5 million and take 3 years. It was cancelled in October 1990, when it had cost £7.5 million and was at least six months behind schedule. After the first attempt, the consultants, Arthur Andersen, recommended a packaged solution for call receipt and ambulance dispatch, and suggested it would cost £1.5 million, and take 19 months. It was decided to design and construct a more comprehensive, bespoke system, but as is common in project management, the first mentioned budget stuck. This is suggestive of anchoring, (Kahneman, 2012). Although such biases strictly only apply to individuals, Dror et al. (2017) suggest they can cascade from one part of a project to another. Also, it was planned the system would take just eight months to implement, less than half the time suggested by Arthur Andersen. Through compulsory competitive bidding a vendor was chosen. The only bidder to bid less than £1.5 million was a small software vendor with no previous experience. The project started in May 1991, with planned commissioning on 8th January 1992. The contract was awarded on 8th August 1991 and signed on 16th September 1991. Somewhat unsurprisingly the delivery date was not met, so in January 1992 the project was reconfigured. A delivery date of Monday 26th October 1992 was set. The system was commissioned on this date despite no testing having been done, and there being 81 known errors of which two were potentially fatal. The system ceased to function on 4th November and the manual system had to be re-implemented. That took a day, during which there was reduced service. (See Beynon-Davies, 1995; Dalcher, 2010).

There was an authoritarian culture that led to authoritarian governmentality. Culture influenced governmentality. MacCormick (2019) suggests the influence can be either way. The authoritarian culture influenced decision making in two ways, contributing to the project failure. Weber and Hsee (2000) suggest culture will influence decision making via behavioural norms, judgement norms, perception of risk and

risk choices. Because of the authoritarian culture the behavioural norms were for people to do as they were told, the judgement norms were to suspend judgement and do as they were told, and no risk analysis and management were done. There were also two group biases commonly associated with authoritarian culture: group think and escalation of commitment, (Jones & Roelofsma, 2000).

4.1.1. LASCAD1

The decision considered is the decision to cancel the project. There had been escalation of commitment to the point where the project was six months late and three times overspent. But suddenly it was cancelled when the system failed a test. Dalcher (2010) does not say what caused the sudden change of mind, so it is difficult to say what factors influenced the cancellation. There had been escalation of commitment, but suddenly enough was enough.

4.1.2. LASCAD2

I focus on the letting of the contract. There was a complete lack of situational awareness, (Endsley, 1995). The first attempt was estimated to cost £2.5 million, and was cancelled when £7.5 million had been spent. Anderson Consulting had said a packaged solution could be done for £1.5 million. Even though they decided to go for a bespoke system, anchoring meant the estimate for £1.5 million stuck. So contractors were told any bid over £1.5 million would be non-compliant. Of the 35 companies that expressed interest, 18 refused to bid. Of the 17 bids received, all but one was over £1.5 million. The one bid under £1.5 million was from one of the weakest bidders, a consortium of an inexperienced software supplier, and a hardware supplier who was a reluctant member. When they won the bid, because the software supplier had no assets, the reluctant hardware supplier was made prime contractor. Doesn't a little voice in your ear say something is not quite right here? People had suspended judgement. There were also issues of identity. Procurement was done by the contracts department who did not understand the project, and were just following rules. Also, there was poor governance, according to the principles suggested by the OECD, (Millstein et al., 1998; Müller, 2017). The process was not transparent, no one was accountable, the process was not professional, and it was not fair on the contractors who made sensible bids.

4.1.3. LASCAD3

I consider the decision to commission the system. Again there was a complete failure of situational awareness, (Endsley, 1995). Consultants were telling LAS the system would not work. It was not properly tested, and there were 81 known errors of which two were potentially fatal. Yet, the system was commissioned on Monday 26th October 1992, the date that had been set nine months earlier when the project was reconfigured. It failed absolutely 10 days later, on the 4th November 1992. Everything suggested the system would not work, but it was commissioned, also illustrating poor mental models, (Rouse and Morris, 1985). We also see here group think and escalation of commitment, and the authoritarian governmentality led to incorrect mental models with the suspension of judgement.

4.2. LASCAD4

Following the third failure, there was a very scathing report into the causes of failure, and the authoritarian culture that contributed to it, (Page et al., 1993). As a result, the culture of LAS changed to become more liberal, and a successful, fourth attempt made to deliver the system. At the fourth attempt, LASCAD was managed as a program, (Dalcher, 2010), with parts of the system developed and delivered separately. The outcome was a success and won awards, though Dalcher suggests it was less than perfect. McGrath (2002) describes the delivery of the Call Taking System, CTAK. At the time, the words governance and governmentality were not used in the British public sector, but because of the Page report, a liberal governmentality was adopted, resulting in medium sovereignty, (Beynon-Davies, 1995).

McGrath (2002) describes how for CTAK a "Golden Circle" was created, and the team isolated within it, to protect them from vested interests which it was felt had contributed to the failure of LASCAD1, 2 and 3. It is interesting because in project history there are cases where isolating the project from stakeholders led to failure because the stakeholders were not engaged, and other cases where isolating the project from vested interests led to success because the team were able to focus on what they were doing, (Turner, 2014). This was a case of the latter. Within the Golden Circle there was neo-liberal governmentality, so there was a liberal culture outside the Golden Circle, and a neo-liberal culture inside it.

The call taking system was developed by the Golden Circle. They took an iterative approach, identifying four possible solutions and prototyping two. The final solution was negotiated with 300 users within Golden Circle. They illustrated naturalistic decision making and strong situational awareness. Through the prototypes they matched action to the situation, did context bound informal modelling and empirical matching. They also had mental models of why the failures occurred in the past and what would work in the future. Within the Golden Circle, the 300 call taking staff working on prototypes, had a strong sense of identity. They wanted to be part of the process and valued working within the shared space. Staff members supported each other, enabling communication. People were tied to their identities which stopped other alliances forming. This also seduced people into an alliance and defined rules of engagement. The Golden Circle became an example of what Latour (1999) labelled a factish, which combines real knowledge (facts) and powerful beliefs (fetishes). A factish provides a mixture of artefacts beliefs and values from the top two levels of the lily pond model of culture, (Schein and Schein, 2017). A factish is constructed and holds people together. When Golden Circle was conceived as a factish rules of engagement were neither wholly mysterious nor entirely rational. The rules were worked out as the prototyping progressed and the solution adopted in a form of satisficing (Simon, 1956),

4.3. Amsterdam North-south metro line

The first construction project is the Amsterdam North-South Metro line, (Staal-Ong and Westerweld, 2010). There the decision we focus on is the decision to change the governance structure. Under the original governance structure, the project was a contractor to the city council, working under a principal-agency relationship. The relationship with external stakeholders (the people of Amsterdam) was managed by the principal, the city council. This did not work. The board decided to change governance structure, whereby the project became a department within the city council, working under a stewardship relationship, and the project now managed the relationship with the external stakeholders.

Under the new governance structure, the governmentality became neo-liberal. The project became more responsible for its own self-management, but also the relationship with the people of Amsterdam became a greater focus. The Dutch culture had a significant impact on the project. The Dutch people tend to be very vocal in their opinions, so changing the responsibility for managing the relationship to within the project enabled a change from management of stakeholders to management for stakeholders, (Huemann et al., 2016), and even to management with stakeholders, (Derakhshan et al., 2019). Looking after the health, safety and welfare of the people of Amsterdam became significant under a program called BLVC, standing for the Dutch Bereikbaarheid, Leefbaarheid, Veiligheid and Communiatie, (accessibility, liveability, safety and communication). This also had an impact on behavioural norms, judgement norms, risk analysis and risk management. Identity was a significant issue on this project, with the responsibility for stakeholder management. Under the new governance structure roles, responsibilities and authorities for managing the relationship with the extremal stakeholders was much clearer. Further, the four principles of governance suggested by the OECD, (Millstein et al., 1998; Müller, 2017),

transparency, accountability responsibility and fairness were more effectively applied under the new governance structure. Finally there was good situational awareness. The project was very much aware the impact the stakeholders can have on project success. Staal-Ong and Westerweld (2010) suggest success can depend on things outside the control of the project manager, and here the project was aware that success was dependent on the acceptance of the people of Amsterdam. Thus it was recognised the importance of changing the identity, that is the responsibility for the management of the relationship with the external stakeholders from the City council as principal under the old governance structure, to the project as steward, and now a department of the city council, under the new governance structure.

4.4. Swedish rail tunnel

The second construction project is a rail tunnel in Sweden, (Eriksson and Kadefors, 2017). The decision I wish to consider here is the creation of the project organization structure. Here there was different governmentality at different levels of the management hierarchy. Governmentality for the relationship of the project director to the board was neo-liberal. The project director was effectively an entrepreneur, creating the project and the project organization. He was in total control of the project. However, as he rolled governmentality down to lower levels of the project, it became liberal. Eriksson and Kadefors (2017) suggest biases and heuristics played a part in the creation of the project organization. Heuristics are short cut rules or rules of thumb people apply to help them make decisions, (Kahneman, 2012). Applying heuristics reduces the cognitive effort but can lead to effective solutions. In particular, Eriksson and Kadefors invoke anchoring, availability and familiarity heuristics, (Kahneman, 2012), meaning people select alternatives that are familiar to them. They also invoke satisficing, (Simon, 1956), meaning that once people have found a solution that works, they do not seek a more optimal one. The psychology literature suggests that heuristics apply to individuals, not groups, (Kahneman, 2012). Individuals apply heuristics to simplify their decision-making processes, not groups, although I did cite above Dror et al. (2017) who suggest that biases can cascade from one part of the groups to another. Thus when the project director choses the project organization structure, he may apply heuristics, and his biases may cascade to other people in the organization, working under a liberal governmentality. However, we can also suggest that the choice of the project organizations was based on mental models, (Rouse and Morris, 1985). Based on previous experience, the project members, including the project director, had mental models of project organizations structures that would work. Eriksson and Kadefors (2017) suggest that research on innovation and knowledge management emphasise the use of meta-routines or dynamic capabilities for selecting operating routines, so also suggest the use of mental models. Regardless of whether metal models or heuristics were applied to select the project organization structure, satisficing occurred. Once an organization structure that worked had been implemented, no attempt was made to find a more optimal structure. However, the author of this paper is a believer of the saying by Voltaire and Arouet (1764), “The perfect is the enemy of the good”. That is why heuristics can lead to effective decision, we apply a solution that works, rather than achieve nothing while we seek perfection. The choice of project organization also illustrated good situational awareness, (Endsley, 1995), choosing a solution that worked in the context.

4.5. ABS international

The first organizational change project is the implementation of antibiotic sustainability, (ABS), in nine European countries, (Gareis and Frank, 2010). The overall aim of this project was to develop ABS procedures and measures for the nine European countries, to prepare and develop a training program for each country and to train trainers and consultants, and to develop a network of experts. There were also two governmentality approaches on this project. The project manager working within her uncle’s consulting company was subject to liberal governmentality. She was controlled by results and had decision making responsibility, but had to conform to the process of the consulting company. On the other hand, for the people working in the nine countries, there was a neo-liberal governmentality. They were acting as entrepreneurs in each of their counties. A key thing about this project was the objectives were set as things which could be achieved. Rather than being a vacuous wish list of ideals, the objectives were carefully framed to make them achievable. I reacted cynically to this when I first read the case, thinking that aspiration had been curtailed to enable the project team to say they had achieved their objectives on completion. But the approach was the correct thing to do. Gareis and Frank (2010, p334) quote the European Union guidance notes in saying:

The specific objectives are concrete statements describing what the project is trying to achieve to reach its general objective. They should be matched to the problem determinants identified in the problem analysis, and should be written at a level which allows them to be evaluated at the conclusion of the project. They should also be specific, measurable, acceptable for the target group, realistic and time-bound.

A general objective is a general indication of the project’s contribution to society in terms of its longer-term benefits. The general objective has to correlate with the different specific objectives.

The project put considerable effort into the processes of team formation and maintenance, (Reader et al., 2009). There was a start-up workshop to define the task, and the norms, characteristics, and attitudes of people working on the project. There was a coordination process to provide leadership, communication between the project team members, and to coordinate decision. Because the objectives had been carefully defined, the goals were achieved, creative solutions were delivered, and the team members felt satisfaction at what they had achieved. The wellbeing of the team was supported, as well as the wellbeing of ABS in the nine countries. Social representation, (Moscovici, 2000), was significant on this project. Communication was important, and that was achieved through regular meetings as well as on-line communication. Group dynamics was also coordinated in this way. Team members had a strong social identity as implementers in their respective countries, which also gave them a significant social position, which had to be developed. Team members were to be facilitators for the implementation process in their countries. Governmentality had to create a strong social cohesion between the project team members. They would all work on their own in their respective countries, but with the support of the network of people doing similar things in nine countries. Further, governance had to enable social exchanges, which was achieved through the start-up process, the regular team meetings and the in-line communication. The team members also identified strongly with the team, they recognised the importance of the project, wanted to be part of it, and enjoyed their involvement. Finally, the four OECD principles of good governance, transparency, accountability responsibility and fairness, (Millstein et al., 1998; Müller, 2017), were visibly applied.

4.6. CRM implementation

The last case study and the second organizational change projects is the implementation of a Customer Requirements Management System (CRM) in a French telecommunications company, (Beldi et al., 2010). This may appear to be another IT project, but it was managed as an organizational change project. Indeed, LASCAD should have been managed as an organizational change project, and following the Page report, (Page et al., 1993), managing the organizational change became part of the program to implement the system at the fourth attempt. Andersen, Grude, Haug and Turner (1987) introduced the concept of a PSO project. They suggested that during the implementation of the computer system, changes need to be made to the people of the organization, the business processes (systems) and the organization structure itself. Beldi et al. (2010) quote some Rip van Winkles who discovered this

20 years after Andersen et al. (1987). Because the project was managed as a PSO Project, social cohesion, (Moscovici, 2000), became significant again. Governmentality had to ensure social cohesion and governance social exchange. People responsible for roll-out had to identify with the project and the changes required, and they had a special social position within the organization. Communication was important and group dynamics needed to be managed. Interestingly, again there was different governmentality for different parts of the project. The project team itself worked under a neo-liberal governmentality. They were operating as entrepreneurs, defining the system and PSO changes to be made, piloting it and managing the roll out. However, the roll-out itself had to be much more strictly managed. Perhaps authoritarian governmentality would be prefeed, but then it is highly likely that the people responsible for roll-out would not be committed to it, so a liberal governmentality was adopted for roll-out. But we see here, the nature of the project drove the governmentality. The people responsible did identify with it very strongly and were highly committed. Finally, the CRM system changed the choice architecture for the company. The new system matched an EAST framework, (Dolan et al., 2010). It was **E**asy to use and **A**ttractive to the users. The implementation followed a suggestion of Turner (2004) to make the new system initially match the old system, and then make improvements with time. Also, the **S**takeholders were well managed, and the implementation was **T**imely.

5. Discussion

Turner (2020) suggested that governance might influence the six psychological constructs, and that those in turn would influence decision making. In this section we review what the six case studies tell us about that relationship.

5.1. Multiple governmentality and governance

Four of the case studies have multiple governmentality or governance structures. In LASCAD4, following the Page report (1993), liberal governmentality was adopted for the organization as a whole. But within the Golden Circle neo-liberal governmentality was adopted. The project team worked as entrepreneurs, developing and testing prototypes. On the Swedish rail tunnel, the project director had neo-liberal governmentality in his relationship with the parent organization. But as he rolled it down to lower levels, he changed it to liberal governmentality. ABS international was the reverse. The project manager's relationship with the parent organization, (the consultancy she worked for), was liberal, but as she rolled it out to the sub-projects working in the nine countries it changed to neo-liberal. In the CRM implementation, the project team developing the new system, the business processes and changed organization structure was subject to neo-liberal governmentality, but for roll-out they changed it to liberal. Turner (2014) suggests that the culture should change from democratic to autocratic as the project moves from design to execution, which suggests that the governmentality for roll-out might be autocratic. But liberal governmentality was necessary to achieve buy-in from the people responsible for roll-out. In the literature on governance reviewed by Turner (2020), there is no mention of multiple governmentalities on projects, and Müller (2019b) confirms there has been little consideration of it. Turner (2014) suggests the culture of a project changes as it progresses through different stages, to reflect the needs of the different stages, and that is what we have seen here. The changing governmentality reflects different working relationships in the team, and that influences the nature of decision making on different parts of the project.

5.2. Culture

Turner (2020) originally suggested governmentality and governance would set culture, but then quoted MacCormick (2019) who suggested that governance influences formal culture but informal culture influences governance. On LASCAD1, 2 & 3, culture set governmentality. Following the Page report (1993), liberal governmentality was adopted for the organization, and that changed the culture, (though the word governmentality was not widely used in the British public sector in the early 1990s). On the Amsterdam North South Line, the governance was changed to change the culture from one based on control to one based on trust. That also changed the nature of the relationship with the external stakeholders. On the other three projects, governmentality influenced the culture, but governmentality, governance and culture were suited to the needs of the project.

Weber and Hsee (2000) suggest that culture influences behavioural norms, judgement norms, risk assessment and risk management. On LASCAD 2 & 3, the authoritarian culture meant that project personnel suspended judgement and did as they were told. There was also little risk assessment or management. On the other five projects, liberal or neo-liberal governmentality, and the associated culture, meant that behaviours and judgement were more suited to the needs of the project. Risk analysis and management was done on several of them. Müller, Zhai et al. (2016, 2017) suggest that with liberal governmentality some decision making is delegated to project managers, and decision are taken on economic principles. With neo-liberal governmentality, project managers act as entrepreneurs with significant freedom, and decisions are taken to maximise organizational values. With liberal governmentality there is management of stakeholders, whereas with neo-liberal governmentality there is management for stakeholders, (Huemann et al., 2016), and even management with stakeholders, (Derakhshan et al., 2019).

5.3. Decision architecture

With the two organizational change projects, ABS International and the CRM implementation, there was some move towards making decision making easy, attractive and social and timely, (Dolan et al., 2010). With ABS international, the people working in the nine countries had to develop ABS principles and procedures for their countries, and training programs. The start-up and running of the project were designed to facilitate that. With the CRM implementation, the CRM system itself was designed to be familiar to users, and so to be attractive and easy to use, to support their subsequent decision making.

5.4. Naturalistic decision-making

Naturalistic decision making, and the associated topics of situational awareness and mental models, is not something widely considered by the project management literature, but was significant in several of the case studies. Endsley (1995, p36) defines situational awareness as:

> … the perception of the elements in the environment within a volume of time and space, the comprehension of their meaning, and the projection of their status in the near future.

whereas Rouse and Morris (1985, p7) define mental models as:

> … mechanisms whereby humans are able to generate descriptions of systems purpose and form, explanation of systems functioning and observed system states and predictions of future states.

Situation awareness is where we predict the future from our observations of the current state, whereas mental models are where we predict the future from our schemata about how the current state is likely evolve. On LASCAD2 & 3, there was a complete lack of situational awareness. The decision to let the contract to the only contractor deemed compliant, and the decision to commission the system showed a lack of awareness of the nature of the situation. On LASCAD4, the prototyping showed the matching of actions to the situation, and mental models of how the system would evolve, based at least in part on knowledge of what failed in LASCAD3. The Swedish rail tunnel showed mental models of what organization structures had previously worked, and what was likely to

work on this project. The Amsterdam metro showed awareness of the impact of stakeholders on the project. ABS International also required the matching of actions to situations in the nine countries.

5.5. Group working

We consider two elements, team formation and maintenance and group biases.

5.5.1. Team formation and maintenance

Reader et al. (2009) developed team performance frameworks to better understand the performance of groups and teams in high risk industries. They include inputs, processes and outputs, Table 2. ABS International illustrates all three steps, through the start-up workshop, the coordination procedures, and the careful definition of the project objectives to achieve a successful outcome. Similar processes may have been followed on the other five projects, but they are not overtly mentioned. On the implementation of CRM in the French telecommunications company, team formation of the roll-out teams was carefully managed. Similarly within the Golden Circle on LASCAD4, team formation was well managed.

5.5.2. Group biases

Jones & Roelofsma (2000) suggest groups can suffer four biases: false consensus; group think; polarization; and escalation of commitment. Please note, that the biases and heuristics described by Kahneman (2012) are suffered by individuals, whereas the four here are suffered by groups, though escalation of commitment is related to sunk cost bias. Jones & Roelofsma (2000) say that group think in particular can occur where there is an authoritarian culture, and is associated with loss of situational awareness. We saw group think on LASCAD2 & 3, with elements of false consensus and polarization. On LASCAD1 we saw escalation of commitment, though that suddenly disappeared. The cause was given as the failure of a test, though the reason behind the evaporation of the bias is not discussed. The final commissioning on LASCAD 3 was also escalation of commitment.

5.6. Identity

Identity was important in several of the projects.

In the letting of the contract LASCAD2, as is common, responsibility for letting the contract was in the procurement department, divorced from the project. The people involved adhered to the estimate given by Arthur Anderson, which in fact was not relevant. The process also did not adhere to the OECD's four principles of governance, (Millstein et al., 1998; Müller, 2017): transparency, accountability, responsibility and fairness. In particular, making the bids that exceeded the impossible estimate non-compliant was very unfair, and of course contributed to the failure of LASCAD2 and 3.

On LASCAD4, people recognised the Golden Circle as something they wanted to join and liked being in. McGrath (2002) also says that the Page report identified responsibilities for key actors, and defined mutually reinforcing identifies linked to the corporate plan.

On the Amsterdam North-South line, the governance structure was changed to better achieve the OECD's four principles of good governance, (Millstein et al., 1998; Müller, 2017): transparency, accountability, responsibility and fairness. Responsibility for managing the relationship with the people of Amsterdam was also moved to the project, to create better relationships. The BLVC process, (Bereikbaarheid, Leefbaarheid, Veiligheid and Communicatie), was also better handled by the project to create better relationships.

On the two organizational change projects, the teams responsible for implementation wanted to be part of the project, because they believed in the importance of the deliverables. So they recognised the project as something they wanted to join and liked being in. On ABS International, the start-up process helped, but the fact that the project was sponsored by the European Union also helped, as did the recognition of the importance of ABS. On the CRM project, the project created a model for the implementation of the project that people believed would work, and would be beneficial for the company, and so the wanted to be part of it.

5.7. Social representation

On the two organizational change projects, ABS International and the CRM implementation, social representation was very important. It was important to help orientate people to the needs of the project and create communication between them. As we saw above, and identity was created where people wanted to belong to the project. People were given appropriate social positions which facilitated group dynamics. Governance facilitated social exchange and governmentality facilitated social cohesion. The same to an extent is also true for the Golden Circle on LASCAD4.

On the Amsterdam North-South Line, the change to the governance structure changed the identity of the project to being part of the City Council, which change the social position and group dynamics of the project. It also facilitated communication with the external stakeholders and created social exchange and social cohesion. It also created objectification, facilitating the process for the implementation of the BLVC process.

6. Conclusion

Turner (2020) showed that the project governance literature suggests that good governance is associated with project success, but also said that the mechanism linking the two was not known. Turner suggested that perhaps good governance leads to better decision making via the six psychological constructs, governance, decision architecture, naturalistic decision making, group behaviour, identity and social representation, and better decision-making leads to better project performance. In this paper we investigated six case studies to investigate the link between project governmentality and governance, the six psychological constructs, project decision-making and project performance. The three research questions are:

RQ1: How do governance and governmentality and the six psychological constructs interact with each other.
RQ2: How do the six psychological constructs influence decision making on projects and thence project performance
RQ3: How do good governmentality and governance lead to improved project performance?

Answering RQ1, governmentality and governance do interact with the six psychological constructs. Sometimes governmentality and governance influence the construct and so cause better project performance. But other times, the construct influences governmentality and governance, and so although good governmentality and governance are associated with better (or worse) project performance, they do not cause it. On LASCAD1, 2 and 3, the authoritarian culture caused authoritarian governmentality, but also contributed to project failure through poor decision-making. So there was correlation but not causality. On LASCAD 4, the liberal and neo-liberal governmentality contribute to good decision-making within the Golden Circle, and so did contribute to project-success. On the Amsterdam NS Line, the governance structure was changed from a principle-agency relationship to a stewardship relationship, and a culture based on trust rather than control. That led to improvements in decision-making in many ways, but particularly in the relationship with external stakeholders. On the Swedish rail tunnel, the project organization was chosen using naturalistic decision making. The neo-liberal governmentality at the top of the project did not directly influence the naturalistic decision-making, but created a context which enabled it to happen. So there was no direct interaction between the governmentality and the naturalistic decision making, but the

governmentality contributed to project success by creating the context in which naturalistic decision-making could occur. On the two organizational change projects there was a strong interaction between governmentality and culture. The neo-liberal and liberal governmentality created a culture within which both projects could flourish, but it was ore the culture that influenced the other five psychological constructs. Also with ABS International, as we saw, the choosing of achievable project objectives, helped create a culture oriented to success, and on the CRM implementation managing the project as a PSO project created a culture oriented to success.

Answering RQ2, somewhat unsurprisingly, the six psychological constructs do influence decision making, and thence project success. Psychological theory would strongly suggest that, (Reader, 2019). Table 4 shows the influence.

Answering RQ3, in all case studies except LASCAD 1, 2 & 3, good governance created a context in which good project management could thrive, and appointed competent people to positions of responsibility or authority who took good decisions. In CTAK, the people assigned to the Golden Circle used prototyping to reach a good solution. On the Amsterdam metro, people in responsible positions decided a governance structure based on stewardship and trust would be preferable to one based on principal-agency and control. In the Swedish rail tunnel, a competent project director chose a successful project organization. And in ABS International and the Customer Relationship management System, competent project leaders created successful projects.

I wish to finish this discussion with two issues suggested by Table 2.

The first is whether project performance is caused by governmentality and governance or by leadership and management. Again, governmentality and governance could influence leadership and management, or leadership and management could influence governmentality and governance. On the Swedish rail tunnel, the use of naturalistic decision making to choose the project organization illustrated good leadership, but as we said above, perhaps the neo-liberal governmentality allowed the leadership to flourish. Similarly, on the two organizational change projects, the management of the team implementing showed good leadership by the core project team. Did good leadership or good governmentality contribute to project success? I think good leadership contributed directly, bit again I think the liberal and neo-liberal governmentality allowed good leadership to flourish. Dean (2010) would suggest that governmentality comes first.

The second is the tension between individual and society, between human agency and structure, topics much covered in the psychological literature, (Furnham, 2005; Haslam, 2004). In the discussion above, governmentality features more than governance. Perhaps because, as Dean (2010) suggests, governmentality sets the scene for governance, leadership and management. But decisions are taken by people, human agents, and so perhaps it is governmentality and not governance that influences decision-making. With the Amsterdam metro, it was governance that influenced decision making and performance, but with the five other projects it was governmentality. Müller Pemsel et al. (2015) invoke Institutional Theory, (Scott, 2004), to elaborate the tension between individuals and societies or organizations. Institutions comprise actors, (humans and organizations), and become real through the actors' behaviours, (Scott, 2012). Müller Pemsel et al. (2015) identify three pillars of institutional theory: regulative elements; normative elements; and cultural-cognitive elements. We saw regulative elements in ABS International, with the guidelines issued by the EU about the nature of project objectives. In LASCAD1, 2 and 3, the authoritarian governmentality constrained the way people behaved. There were normative elements in all the projects, with informal norms and values, and formal and informal roles, which we discussed under identity. Finally the cultural-cognitive elements were discussed under social representation and were significant in CTAK, ABS International and the CRM implementation.

6.1. Theoretical implications

Authors on project governance suggest good project governance leads to good project performance, but they say the link is unknown. Turner (2020) proposed the link may be via decision making. Good governance

Table 4
The influence of the six psychological constructs on the six case studies.

Case	Culture	Decision architecture	Naturalistic decision-making	Group working	Identity	Social representation
LASCAD1,2&3	Authoritarian culture led to poor decision making: compliant behaviour; suspension of judgment		Situational awareness lacking Poor mental models	Authoritarian culture led to group think and escalation of commitment	OECD principles lacking People did not identify with their roles	
LASCAD4 *CTAK*	Liberal culture adopted; neo-liberal within Golden circle. Factish adopted		Naturalistic decision making Prototyping matched action to the situation Mental models of previous failures Solution satisficed	Golden Circle created Effective team building	Strong identity in the Golden Circle	Rules of engagement defined how people worked together The factish defined how people worked together
Amsterdam NS Line	Governance structure changed to move from control to trust Governmentality became neo-liberal Decision norms impacted		Aware of impact of stakeholders on project success		OECD principles applied. Management for stakeholders	Changed governance structure changed social position and group dynamics.
Swedish rail tunnel	Project director's relationship to parent was neo-liberal Governmentality in project was liberal		Biases, mental models and experience applied to choosing project organization Solution satisficed			
ABS International	Achievable objectives	EAST framework for project sub-teams	Situation-action matching	Start-up and project coordination team building and support	Strong desire to belong OECD principles applied.	Important on an organizational change project
CRM Implementation	Managed as a PSO Project	EAST framework for project sub-teams and for the users of the system	Situation-action matching	Team building and coordination of implementation teams	Strong desire to belong	Important on an organizational change project

may lead to good decision making which leads to good project performance. He suggested governance may influence six psychological constructs which will influence decision making. Turner cautioned that correlation does not prove causality. With one of the six case studies studied here, inappropriate culture led to poor governance and to poor decision making and poor project performance, so poor governance and poor project performance are correlated, but both are caused by inappropriate culture. In the other five case studies, good governance led to good project performance. In all six case studies, the six psychological constructs influenced decision making. As we have just seen, on LASCAD1,2 & 3, inappropriate culture led to poor governance and poor decision making. On the other five projects, good governmentality and governance created an environment in which good decisions could be made, and assigned competent people to lead the projects take decisions. Thus this work provides support for Turner's proposition that the link from good governance to good project performance is via good decision making, the six psychological constructs contribute, and good governmentality and governance assign competent people to take decisions.

6.2. Practical implications

This work provides guidance to project professionals about how governance can improve decision making on projects and thence improve project performance. Work on project governance has shown that good governance is associated with good performance on projects, and that often it helps improve project performance. In five of the case studies, good governance led to improved decision making, which led to improved project performance. In the case of the Amsterdam metro, the switch from a governance structure based on principal-agency to one based on stewardship created a context in which better decision could be made. Governance based on stewardship leads to better project performance, (Joslin and Müller, 2016), and should now be the new normal, (Collier and Kay, 2020). In four other case studies, governance created an environment in which good decision could be made and assigned competent people to project leadership positions to take good decisions. In the case of the first three attempts at the Computerisation of London Ambulance the organizational culture influenced governance and decision making. This illustrates the strong impact culture can have on decision making and project performance raising awareness of the need to be cognisant of organizational culture.

6.2.1. Limitations

In this paper we have reviewed six case studies, two each from information systems, construction and organizational change. Information systems, engineering and organizational change were the three technologies considered by Müller and Turner (2007), following Crawford et al. (2006). Crawford et al. suggested that as the basic categorization of technology, but did suggest wider categorizations, so it would be possible to find other types of projects. The two information systems projects were in fact four attempts at the same system, but the behaviour in the fourth attempt was significantly different from the first three, and so provided a useful comparison. The six case studies all provided a different perspective, so saturation was not reached. But the six perspectives all provided valuable insights. In five of the case studies, governance influenced decision making which influenced performance. That was in fact what we were looking for. In the sixth, culture influenced decision making and separately influenced governance. It might be useful to find more case studies where the psychological construct is the main influencing factor, but the aim here was to investigate cases where governance is the main influencing variable.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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