Knowledge that matters for the ‘survival of unfittest’: The case of the new Brussels’ rail junction

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ABSTRACT

The construction of a large metropolitan infrastructure, like other megaprojects, requires advanced technical expertise, capacity to manage complex procedures and planning processes as well as capacity to deal with conflicting interests. For the case of megaprojects, overestimation of benefits and underestimation of costs and risks is a common problem all over the world, leading to the ‘survival of the unfittest’ (Flyvbjerg, 2009). The main causes were identified in the optimism bias, strategic misrepresentation, path dependency leading to lock-in and poor oversight; however, the ‘survival’ of these causes is still unclear. For this purpose, the survival of the unfittest megaprojects is re-conceptualised into a proper cognitive-evolutionary framework. By introducing an innovative taxonomy of policy knowledge, this paper aims to argue that a specific policy community can ‘survive’ by strategically using a ‘cognitive monopoly’ of some of the relevant policy knowledge for megaprojects. Based on the case of the new ‘Watermael – Schuman – Josaphat’ rail junction in Brussels, findings show the critical role played by the Federal Ministry for Communications thanks to a long-standing and context-specific know-how on underground works. While missing knowledge was outsourced and instrumentally used to overcome potential lock-in, the Ministry was able to build the only new large metropolitan infrastructure of Belgium during a period of high uncertainty due to decentralisation. The paper concludes discussing the effects of preserving this policy knowledge as well as negative issues related to this ‘cognitive monopoly’.

1. Introduction

The complexity of project management and the importance for urban and regional development makes the new Brussels rail junction in Brussels part of the debate on megaprojects (Dimitriou et al., 2013, 2014; Flyvbjerg, 2007; Kennedy, 2015; Salet et al., 2015). The exponential growth of megaprojects all over the world is associated with growing scepticism due to a persistent problem of overestimation of benefits and underestimation of costs and risks, the so-called ‘survival of the unfittest’ determined by optimism bias, strategic misrepresentation and political-economic lock-in (Flyvbjerg, 2007, 2009, 2014).

Acknowledging the complexity of megaprojects (e.g. Dimitriou et al., 2014), this article aims to investigate the role of knowledge for large metropolitan infrastructure to contribute to the debate on why the causes of the ‘survival of unfittest’ megaprojects persist. To integrate the notion of ‘survival of the unfittest’ (Flyvbjerg, 2009), a cognitive-evolutionary approach will be introduced focusing on policy community and policy paradigm (Hall, 1993; Slembeck, 1997). In this framework, the focus is on the common understanding of a policy issue (the so-called ‘policy paradigm’) shared among the policymakers involved in this issue (the policy community). The literature on policy transfer has already pointed out the importance of external experts and consultants for the global diffusion of megaprojects (Dolowitz and Marsh, 2000; Prince, 2012), while clarifying also the crucial importance of context-specific knowledge. However, the persistence of the optimism bias was not (yet) related to the notion of policy paradigm (Borraz and John, 2004; Dotti, 2016; Wohlgemuth, 2002). In policy studies, the ‘strategic misrepresentation’ of megaprojects leading to the survival of the unfittest has been framed as an example of the instrumental use of policy knowledge (Hoppe, 2005).

Building on these contributions, the cognitive-evolutionary approach aims to integrate the mainstream literature on megaprojects providing a common framework to explain the persistence of the causes identified by Flyvbjerg. Specifically, the optimism bias and the strategic misrepresentation ‘survive’ because political actors mobilise only for issues they can ‘understand’ within their policy paradigm, while they tend to reject what questions their core beliefs and preferences. This self-reinforcing
mechanism leads to path dependency because “[i]t is particularly diffi-
cult to unlearn successful habits of the past, and institutions may be
retained and sometimes even aggressively defended long after they have
been made redundant by internal or external events” (Malmberg
and Maskell, 2006, p. 6). The common understanding shared by policymakers
(i.e. the policy paradigm) shapes their preferences and beliefs, and works
like a filter on what they can learn: external sources of knowledge can be
‘understood’ and accepted as long as these do not question core beliefs
and preferences. Within this framework, the external views, suggested by
Flyvbjerg, to solve the survival of the unfittest, are likely to be accepted
(rejected) if they confirm (question) the political preferences and beliefs
of the policy community. Lastly, the strategic misrepresentation can be
seen as an effective survival strategy for a policy community aiming to
preserve a dominant position, yet the capacity to use this strategy is a
relevant policy knowledge as such.

The construction of a large metropolitan infrastructure, like other
types of megaprojects, is a major policy challenge: design, construction,
and implementation require the capacity to deal with conflicting in-
terests, to solve technical problems, to manage lengthy procedures as
well as dealing with high degrees of uncertainty. Some of this policy
knowledge might be already available locally or acquired externally, yet,
they are not equivalent. For this purpose, a new taxonomy for the
different types of policy knowledge is proposed based on the distinction
between context-specific know-how and potentially transferable know-
what. This new taxonomy aims to identify whether a policy community
is able to create and benefit from a ‘cognitive monopoly’ as a survival
strategy to keep a dominant position.

The cognitive-evolutionary approach is applied to the case of a new
large metropolitan infrastructure, the Watermael-Schuman-Josaphat
(WSJ) rail junction in Brussels. This case study presents two interesting
features. First, the Belgian Corps of Engineers has a long-standing
knowledge of underground works in Brussels (Zitooni and Tellier,
2013); nonetheless, since the 1980s only one megaproject has been built,
namely the WSJ junction, making Brussels (and Belgium) against the
global trend of megaprojects. Second, since the 1980s Belgium went
through a major process of institutional decentralisation threatening the
existence of the policy community established for underground works in
Brussels. While the mainstream literature has devoted limited attention to
the link between megaproject and decentralisation, in cognitive-evolutionary terms, this case provides the opportunity to
investigate the survival strategy adopted by the corps of engineers based
on their cognitive monopoly.

The paper is structured as follow. The next Section 2 reviews the
literature. Section 3 presents the cognitive-evolutionary approach and a
new taxonomy of policy knowledge. Section 4 discusses the link between
megaprojects and decentralisation, referring to the case of Brussels.
Section 5 describes materials and method used for the case study. Section 6
presents the analysis of the WSJ rail junction case, while Section 7
proposes some general reflections with a specific focus on the notion of
cognitive monopoly. The last part concludes with remarks for future
research.

2. Literature review on policy knowledge for large metropolitan
infrastructure

The new rail junction of Brussels is an example of a megaproject
(Flyvbjerg, 2014) due to the long planning horizons, complex and chal-
lenging management as well as relevance for urban and regional devel-
oment (see also Dimitriou et al., 2014; Flyvbjerg, 2014; Locatelli et al.,
2017a; Salet et al., 2015). A global trend of increasing investments in
megaprojects was observed during the last decades with growing scepi-
ticism due to persistent cost overrunning and/or benefit shortfalls as well
as systematic underestimation of risks (Flyvbjerg, 2007; Dimitriou et al.,
2013; Kennedy, 2015). In a seminal contribution, Bent Flyvbjerg (2009)
explains why the worst infrastructure gets built: overestimation of
benefits and underestimations of costs and risks is the formula to

guarantee funding for megaprojects, though this is definitely not a
Pareto-efficient solution. While improved cost-benefit analysis could fix
technical reasons, he identifies in the optimism bias, the strategic
misrepresentation by political actors and the lock-in determined by path
dependency as the psychological and political-economic causes for the
survival of the unfitness megaprojects (on these issues, see also Flyvbjerg,
2014). The optimism bias and the capacity for strategic misrepresentation
can explain the persistence of cost overrun and overestimation of
benefits and risks, but little is said about why these two causes ‘survive’
cauing path dependence which might end up in political-economic
lock-in. In principle, once these two causes are identified, it should be
possible to solve them, and Flyvbjerg already suggests some solutions
such as enforcing external views. However, this does not seem to happen.

In the literature on megaprojects, policy knowledge is usually con-
ceptualised as ‘knowledge-on-demand’: external experts are involved as
‘consultants’ providing advice for pre-defined policy issues at stake
(Cantarelli et al., 2010a, 2010b; Dimitriou et al., 2013; Gezzen et al.,
2015; Innes and Gruber, 2005). More recently, an alternative mode has
emerged based on the notion of ‘co-products’ among policy-makers,
experts and stakeholders, including citizens (Armitage et al., 2008;
Garmendia and Stagl, 2010). Although co-production is getting growing
attention in urban planning and governance of common resources
(Healey, 2008; Innes and Gruber, 2005; Newig et al., 2016), the literature
on megaprojects clearly shows the predominance of the first mode (see
also Dimitriou et al., 2014; Flyvbjerg, 2007, 2014; Kennedy, 2015).

The role of external experts and consultants providing knowledge for
megaprojects has been widely analysed in the literature on ‘policy
mobility’ as a by-product of globalisation (McCann, 2011; Park et al.,
2014; Peck, 2011; Peck and Theodoro, 2010; Prince, 2012; Smith, 2013;
Theodore and Peck, 2012). In this field, the Dolowitz-Marsh model
provides a complete framework to analyse ‘policy transfer’, including
policy mobility (Dolowitz and Marsh, 2000). This model provides an
analytical framework articulated around six key questions: why does
policy transfer happen? Who are the key actors? What is transferred?
From where? What are the degrees of transfer? How is policy transfer
related to policy ‘success’ or ‘failure’? This model states that not all the
relevant policy knowledge can be transferred, and the receiving context
is crucial to make the policy transfer happens (see also Benson and
Nevertheless, both internal and external knowledge suffers the same optimism
bias, while policy transfer can be just part of a strategic
misrepresentation.

In policy studies, the involvement of external experts and consultants
is a well-known political tactic (cf. Dente, 2014; Hoppe, 2005; Peters,
2015). External knowledge is commonly used to substantiate predefined
preferences and to legitimise the position of a political actor against
opponents (Barzelay and Gallego, 2006; Capano, 2003, 2009; Kay, 2009;
Krause, 2010; Marsden et al., 2011). The instrumental use of knowledge
raises two main issues on the role of external experts and consultants in
megaprojects. First, Dolowitz and Marsh have already clarified that not
all the relevant policy knowledge for megaprojects can be transferred;
however, they do not enter into the discussion on different types of policy
knowledge (I will come back to this point in the next Section). Second,
external knowledge requires some ‘internal’ actors able to instrumentally
use it, presumably someone with the context-specific policy knowledge
that cannot be acquired from outside. Even assuming an external coer-
cion imposing the construction of a megaproject, the literature has already
highlighted the importance of the local due to the high complexity and uncertainty that are by definition associated with
megaprojects (Dimitriou et al., 2013; Flyvbjerg, 2009; Locatelli et al.,
2017b). Therefore, the interaction between internal and external policy
knowledge should be explained discussing how the optimism bias always
‘survive’ in both directions. For this purpose, urban studies have studied the
role of ‘urban leaders’ and ‘policy entrepreneurs’ to mobilise context-
specific knowledge, turning this into successful political/policy initia-
tives (Block and Paredis, 2013; Boal and Schultz, 2007; Borraz and John,
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