

SERIES: Technical Documents on Megaprojects

# THE INSTITUTIONAL ENVIRONMENT OF MEGAPROJECT PLANNING AND APPRAISAL

Juan Alberti

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# TECHNICAL DOCUMENTS ON MEGAPROJECTS

## SERIES

This document belongs to a series called “Technical Documents on Megaprojects”. It is part of a significant research effort developed to study megaprojects in the transport sector in Latin America and the Caribbean in 2016, 2017, and 2018. Its objective has been to carry out an in-depth analysis of particularly relevant issues concerning the planning, appraisal, and delivery of these endeavors.

For each issue studied, different views proposed by academics and practitioners are illustrated and one position is advocated. It is not the spirit of this series to generate a consistent message around every matter analyzed in the different documents, but to stimulate the discussion and a research environment on this topic. The series can be used as input in those countries that wish to face the challenge involved in developing megaprojects in the transport sector.

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## PREFACE

*This paper hypothesizes about the potential reasons behind the consistent use of a closed system approach to decision-making at the planning and appraisal phases of megaproject development in Latin America and the Caribbean. It is here alleged that this is related to the institutional environment in which megaprojects are developed.*

*In order to do so, this document compares the contributions of three different approaches to the analysis of the institutional environment of transport policy development and megaproject planning and appraisal: the sociological approach to institutions; the political new institutionalism; and new institutional economics. It shows that institutions have been usually understood in different ways by these fields, emphasizing different elements of this relevant subject, and this should be considered if an in-depth analysis is expected to be developed.*

*Following the framework proposed by Scott (2012), this paper shows that the key to understand the challenge of analyzing the institutional environment of megaproject planning and appraisal is to be aware of the different institutional elements in place, and to use the most suited approach to analyze each one of them. Moreover, it also illustrates that the case of Latin America and the Caribbean is probably not a “pure case” where only one element is responsible for the outcomes, and depending on the pillar under analysis, one of the abovementioned approaches to institutions may be more suited as a conceptual framework to thoroughly analyze the problem.*





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# 1

## INTRODUCTION

Broadly speaking, *institutions* can be defined as elements that give meaning and organization to whatever social interaction, political process, or economic activity is being developed. They can be understood as a constitutive part of reality with structures and changing patterns that affect every sector in society (Scott, 2013).

This paper, therefore, assumes that *institutions* are related to—and impact on—the way in which megaprojects are planned and appraised.<sup>1</sup> Previous research developed by the author has revealed that governments that look to deliver the most extensive range of positive transformational benefits that megaprojects can possibly provide, should use an open systems and transparent approach when planning and appraisal is developed (Alberti, 2019). However, in Latin America and the Caribbean, governments tend to develop a closed systems approach (Alberti, 2015). Using the previous definition of *institutions*, the view of the author is that some relevant institutional elements are not aligned to promote an open-systems approach.

The first step to thoroughly analyze this phenomenon is to understand what dimension or dimensions of the institutional background could eventually be responsible for sustaining the status quo. Therefore, in section 2, this document firstly scans and summarizes the three most important approaches to institutional analysis: *The Sociological Approach to Institutions*; *The Political New Institutionalism*; and *New*

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<sup>1</sup> For a definition of megaproject and a thorough description of the challenges at the planning and appraisal stages please see the following paper of the series: "Planning and Appraisal Recommendations for Megaproject Success" - <http://dx.doi.org/10.18235/0001543>

*Institutional Economics*. Secondly, in section 3, it illustrates how the previous approaches have been used to analyze the institutional environment of transport policy and megaproject planning.

Subsequently, section 4 recaps and concludes that institutions are usually understood in different ways by the previous fields, which emphasize different elements of this relevant subject. This document exhibits that neither of the previous approaches is capable of analyzing every possible angle regarding the institutional environment of megaproject planning and appraisal. In this context, it is here recommended to follow Scott (2012) who claims that while one approach may be more suited to study a particular institutional dimension, others may be better suited to study other dimensions. This paper shows that the key to understand the challenge of analyzing the institutional environment of megaprojects planning and appraisal is to be aware of the different institutional elements in place, and to use the most suited approach to analyze each one of them.

# 2

## THREE INSTITUTIONAL APPROACHES

### **2.1. THE SOCIOLOGICAL APPROACH TO INSTITUTIONS: INSTITUTIONS AS A FORM OF CULTURE**

#### **2.1.1. THE OLD SCHOOL OF THOUGHT**

A good starting point to understanding institutions with a sociological approach is the work of Durkheim, Weber and Parsons. Durkheim treated social institutions as symbolic systems, related to systems of knowledge, belief and moral authority, which impact situations (Durkheim, 1895, p. 45). Weber was influenced by this idealistic way of understanding institutions, but he was also persuaded by the materialistic view proposed by others. Basically, he proposed that rational behavior cannot be assumed because there are different ways of being rational, affected by culture and ethics (Weber, 1947). Under a similar approach, Parsons proposed a frame of reference and a general theory of action systems. He alleged that there is an institutionalization of cultural patterns (Parsons, 1951).

Under this body of knowledge, sociologists started working on the relationship between institutions and organizations (Scott, 2013). Selznick, for example, defined an organization as a structural expression of rational action, with a system of coordinated personnel activities aimed at facilitating the accomplishment of objectives. However, he supported that formal structures never succeed in conquering the non-rational dimensions of organizational behavior (Selznick, 1948). Moreover, Merton discussed the interaction between bureaucracy and personality. Specifically, he discussed their relationship and feedback.

Merton related this to the potential inconsistencies between rules (given by regulation) and purpose, attached to sentiment formation and emotional dependence (Merton, 1940).

Furthermore, Simon studied the impact of changing social values on the operation of organizations. Simon alleged that individuals follow particular values linked to beliefs about means-ends connection in the context of bounded rationality (Simon, 1945). This author, among others, was particularly concerned about informal structures and how they affected organizations. They criticized utilitarianism because interests were aggregated and outcomes were unpredictable. Values and norms were considered the basic forms of cognition (Dimaggio and Powell, 1991). This old school of thought laid the ground for a new institutional view in the field of sociology.

## 2.1.2. THE NEW SCHOOL OF THOUGHT

Silverman was one of the first authors to shift his focus from interest aggregation to social action in the context of organizations. Silverman theorized that organizations are immersed in a social system that contains impersonal processes, a structure of social relations, which constrain the action of the actors involved. These social systems are those that adapt, integrate and secure their stability (Silverman, 1970). Additionally, in the same line of work, Bourdieu (1977) conceived that the environment is formed by culture or social structures that produce “habitus”. In his view, they are systems of durable, transposable dispositions (Bourdieu, 1977).

This new view of institutions in sociology understands that there is a rationalization of myths in the structures of formal organizations. These myths are the institutional rules that gain legitimacy and in turn stability. Organizations incorporate practices and procedures driven by concepts that are institutionalized in the society. Zucker conceived that the fundamental process is the one where moral becomes factual, where social knowledge exists as a fact and objective reality. Under her view, the degree of institutionalization results in a particular cultural persistence because it promotes generational uniformity, maintenance and resistance (Zucker, 1977).

This “new” sociological view understands that institutional forms are not adopted as a response to a rational act to encourage efficiency.

On the contrary, the procedures named as institutions are actually a response to myths and ceremonies that organizations adopt in a natural way. Bureaucracy is not impacted by culture; it is a form of culture (Hall and Taylor, 1996). Under this approach, institutions are not a product of human conscious design and therefore are not always instrumentally oriented. Institutionalization is a cognitive process that arises as a consequence of routines, schemes and scripts (Dimaggio and Powell, 1991). There is a “logic of social appropriateness”, in contrast to a “logic of instrumentality” (Campbell, 1998).

This view proposes that institutions influence behavior not by determining what one can do, but what one can imagine one can do. Individuals are purposive, goal oriented and ultimately rational. However, rationality is socially constituted. Both individuals and organizations intend to define their identity in socially appropriate ways (Hall and Taylor, 1996). This line of thought has promoted historical and empirical studies related to how strategies and practices become institutionalized (Palmer, Biggart and Dick, 2012).

## **2.2. THE NEO-INSTITUTIONAL POLITICAL APPROACH: INSTITUTIONS AS INSTRUMENTAL RULES OF POWER**

Institutions are conceived and defined in different ways by political scientists (Peters, 1999). They differ when it comes to defining their nature, the processes that translate rules into political impacts and the processes that translate human behavior into those rules. However, in general, institutions are understood by political scientists as a collection of rules and organized practices, embedded in structures of meaning and resources that are relatively invariant and resilient (March and Olsen, 1989, 1996, 2008).

In its beginnings, political analysis focused on the study of formal and legal structures, on the configurative descriptions of political systems, and on the reconstruction of the institutional context (Bill and Hardgrave, 1973). However, political scientists realized that formal structures did not explain political behaviors. Therefore, a behavioral approach emerged that studied the informal distributions of power, attitudes and political behavior (Thelen and Steinmo, 1992). This imposed scope limits, by focusing more on behavior than on substantive explanations. Thus, two main approaches to institutional analysis in political science emerged in

the 80's, which now form what is usually understood as Political Neo-Institutionalism (Thelen and Steinmo, 1992).

These two approaches are the historical perspective of institutional analysis and the rational choice perspective (Hall and Taylor, 1996; Peters, 1999; March and Olsen, 2008; Scott, 2013; Hysing and Olsson, 2017). Some of these authors include other approaches to political institutions, such as the normative, empirical, international and societal approaches (Peters, 1999) or the constructivist (also related to the sociological approach) and network institutionalism perspectives (Rhodes, Binder and Rockman, 2008). The first two are summarized in this paper.

### 2.2.1. HISTORICAL INSTITUTIONALISM

Using a historical perspective, according to Hall and Taylor (1996, p. 938), institutions are seen as “formal and informal procedures, routines, norms, and conventions embedded in the organizational structure of the polity or political economy”. According to Thelen and Steinmo (1992), the historical perspective develops its hypothesis in an inductive way, when interpreting the empirical results.

This approach focuses on how ideas impose morality on institutions, and on the relationship between norms, their ambiguity and inconsistency, and the paths to their transformation (March and Olsen, 1984). Under this view, social arrangements do not represent an aggregate sum of rational actions. They are related to past choices, and institutions have a continuous effect, generating dependencies on decision making (Campbell, 2004, p. 25).

When using this structural approach to understand institutions, therefore, path dependence is a fundamental concept. It can be understood as a reinforced process with roots in positive feedback from initial policy choices (Pierson, 2004). The question that historical institutionalists try to answer is: Where do institutions come from and how were they established? Change is understood as a break in continuity and as an external disruption. As an approach to institutions, it lacks a theoretical elaboration on actors and how they interact with the routines, norms and conventions embedded in the organizational structures (Hysing and Olsson, 2017).

## 2.2.2. RATIONAL CHOICE INSTITUTIONALISM

The rational choice perspective, on the other hand, understands institutions as rules of governance that are deliberately constructed to protect some type of interest. They face problems of collective action and they are means used by the winners to pursue their objectives, usually at the expense of the losers (Moe, 1984, 1990).

According to Hall and Taylor (1996), this approach is based on fixed preferences and strategic calculation, which usually lead to collective dilemmas because general sub-optimisms are reached by pursuing individual political interests. In this case, institutions originate from the previous interests, and can be analyzed deductively. Rational choice institutionalism implies that the games actually played are unable to change the rules. Change must occur through actions outside the game. This approach is, therefore, well equipped to study the game in itself, rather than to understand how and why institutional rules and norms change and persist (Peters, 1999).

According to Scott (2013), while the historical perspective of institutions focuses on the evolution of institutions and their effects on behavior, the rational choice approach focuses on the microfoundations of institutions. Under this view, each one of them is incomplete, and they can be used in a combined way to achieve more complete explanations of a particular phenomenon (Scharpf, 1997).

## 2.3. THE NEW INSTITUTIONAL ECONOMICS APPROACH: INSTITUTIONS AS THE RULES THAT ORGANIZE MARKETS

New Institutional Economics (NIE) is a perspective which understands *institutions* as the formal and informal rules that organize market exchanges and human relationships. This approach has its roots in the work of Coase (1937, 1960). He argued that in order to carry out a transaction there are several costs that should be considered. It is necessary and costly to find out who it is that one wishes to deal with, to inform that one wishes to deal (and on what terms), to obtain a bargain, to draw up the contract, and to make sure that the contract is being observed, among others (Coase, 1960).

He named these costs as “transaction costs” (TCs), which affect the delimitation of the potential rearrangements of property rights. Under this body of knowledge, the property rights of an individual or firm provide an opportunity: 1) to use a particular asset; 2) to appropriate the fruit of their work including the goods and services they possess; and 3) to change the form of the asset (Barzel, 1989).

Coase argued that a perfect market operated by people, as understood by neoclassical economics, would prevent several transactions taking place due to high TCs. Under his view, firms emerge as a solution to avoid these TCs (Coase, 1937). This became the foundation for analyzing governance structures and institutional environments under the NIE perspective.

Oliver Williamson coined the term NIE, intending to differentiate this body of knowledge from “old institutional economics”, as the followers of the old school did not have a backup theory to bind together their collection of facts (Williamson, 1975). Williamson explained that transactions differ in their attributes and should be aligned with governance structures. He proposed a transaction cost-economizing logic that determines the institutions of governance (the use of market, hybrids, firms and bureaus, among others).

Under this institutional approach, two interrelated concepts arise: institutions as rules of the game and institutions as play of the game. Regarding institutions as the “*rules of the game*”, another seminal author called Douglass North defined institutions as humanly devised constraints that structure political, economic and social interaction. Under this view, institutions consist of both informal constraints (sanctions, taboos, customs, traditions and codes of conduct) and formal rules (constitutions, laws, property rights) (North, 1991, p. 1). From his perspective, institutions and the effectiveness of enforcement determine the cost of transacting. Therefore, it is central to account for the evolution of political and economic institutions that create a particular environment that may or may not foster economic and social development (North, 1991).

Furthermore, regarding institutions of governance, or the “*play of the game*”, as named by Williamson, economizing on transaction costs is held to be the ‘main case’ in relation to which adaptation is the central problem of economic organization. Governance structures differ in incentive intensity, administrative control and contract law

regime. Therefore, for the private sector, he explains that “unassisted market” supports autonomous adaptation by combining high-powered incentives with little administrative control and a legalistic dispute settling mechanism; “hierarchy” supports cooperation by combining low-powered incentives, extensive administrative control, and resolving most disputes within the firm; “hybrid” contracting is located between market and hierarchy (Williamson, 1999). Moreover, he suggests that the “hierarchy” solution includes making a choice between the private or public option. Regarding the public option, an extra choice must be made between “Public Agency” and “Regulation”. The selection of the governance structure, in transaction cost economizing terms, is related to the nature of the transaction, linked to contractual hazards and contractual safeguards.

According to these authors, NIE focuses its efforts on economizing transaction costs at two levels: getting the institutional environment right (formal “*rules of the game*”); and getting the governance structures right (“*play of the game*”). This is the evident link between NIE and Transaction Cost Economics (TCE).

The “rules of the game” impact and are impacted by the “play of the game”. Specifically, transactions differ on asset specificity, uncertainty and frequency. Asset specificity refers to the degree to which an asset that is used to support a transaction can be redeployed to alternative uses. Uncertainty presents the need for adaptation. Frequency is also a pertinent dimension as recurrent transactions may support the setup costs of specialized governance and have better reputation effect properties (Williamson, 2000).

The mentioned transaction attributes create contractual hazards, which are basically a consequence of bounded rationality and opportunism. They result in principal agent problems, adverse selection and moral hazards. This is the link between TCE and contract theory, which is especially relevant in infrastructure development in general and megaproject planning, appraisal and delivery in particular.



# 3

## INSTITUTIONAL ANALYSIS RELATED TO TRANSPORT POLICY AND MEGAPROJECT PLANNING

### **3.1. THE SOCIOLOGICAL APPROACH TO INSTITUTIONS: INSTITUTIONS AS CODIFIED SYSTEMS OF IDEAS AND PRACTICES**

Under the sociological institutionalist view, institutions as norms, rules, and values are cognitively, culturally and structurally embedded in the decision-making process in every sector in society (Healey, 2007; Servillo and Van Den Broeck, 2012). They are socially constructed and they are not the result of utility-seeking.

Institutions are adopted principally because of their social appropriateness and legitimacy. However, they may or may not be of instrumental value. Under this approach, change is not a response to a technical rational view of the problem, such as the one that promotes that institutions are means leading to an end. Change, on the other hand, is socially rational as a consequence of new interpretations and values that emerge (Servillo and Van Den Broeck, 2012).

Several authors have used this approach as a conceptual framework to analyze transport policy and infrastructure planning (Verma, 2007; Vigar, 2013; Witte *et al.*, 2013; Marshall, 2014; Rozema, 2015). Alexander (2005) explains that all planning, thus including megaproject planning,

takes place within an institutional context or in sets of nested institutional contexts. According to González and Healey (2005), the sociological and social constructivist approaches have been useful to understand the nature of “implementation processes” and the relation between strategy and action in this sector.

This sociological institutionalist approach is intimately related to the constructivist view in political science. This interdisciplinary relationship is exhibited, for example, in the work of Wiener (2006). Constructivists understand actors as both strategic and institutionalized, and institutions are codified systems of ideas and practices (Hay, 2008). While historical institutionalists and rational choice institutionalists in the political approach presume equilibrium, the constructive perspective deals with disequilibrium dynamics. It is an attempt to develop an endogenous institutionalist account of the determinants of change (Hay, 2008). Under this view, a great deal of effort is made to understand ideas and discourse. Hajer and Versteeg (2005) defined discourse as a linguistic regularity that can be found in conversations. It is useful to reveal the role of language in politics, the embeddedness of languages in practices and its capacity to answer “how” questions and to “illuminate mechanisms” (Hajer and Versteeg, 2005, p. 176). According to the view of Hajer and Wagenaar (2003), what has a standing in societal discourse defines what is considered a legitimate political discourse, and ultimately, the kind of society that is expected.

In turn, Schmidt (2008) alleges that ideas can promote action, persuade and reconstruct interests and values, and ultimately change. Ideas exist in policies, programs and philosophies, and are cognitive or normative. Under her view, discourse comes in two forms: the coordinative discourse among policy actors and the communicative discourse between political actors and the public. Schmidt (2010) explains, moreover, that institutions, under this view, are defined dynamically as structures and constructs of meaning that are internal to agents whose ideational abilities enable them to create or maintain institutions, and their discursive abilities enable to communicate about them and eventually generate change. Institutional change is theorized as “the product of sentient agents engaged in thinking up new ideas about what to do and how to do it and then engaging in discussions in efforts to persuade others that this is indeed what one needs to do and ought to do” (Schmidt, 2009, p. 533).

Specifically regarding megaprojects in the transport sector, a good example of the application of this approach is the work of Peters (2003). He analyzed the key storylines regarding the development objectives of Pan-European transport investments. The key storylines he included were: cohesion, polycentricity, missing links and bottlenecks. In another good example, Heeres, Tillema and Arts (2012) explain how Dutch planning and realization of road infrastructure has changed, specifically from “line” towards “area-oriented approaches” and discourse. In the same line, Witte *et al.* (2013) show that the academic discourse regarding European transport corridors lacks a sector transcendent and comprehensive spatial approach. Marshall (2014) analyzes, among others, the relationship between the Trans-European Networks reforms and the possible impact on spatial planning in the long-term, studying ideas and imaginaries.

Rozema (2015, p. 484) specifically uses the following statement to show how this sociological institutionalist and sociological constructivist view can be used in this specific sector: “metaphors, storylines, images and so on, are powerful technologies for transport planners and decision-makers, for they transpose prevailing norms and values into infrastructure rationalities”. They are institutionalized and conveyed through policy discourses. This is the fundamental idea when using the sociological/constructivist approach to analyze transport policy and megaproject planning.

### **3.2. THE NEO INSTITUTIONAL POLITICAL APPROACH: INSTITUTIONS AS RULES THAT CREATE AND EMPOWER POLICY NETWORKS**

According to Stone (2014), transport systems can be seen as political objects because policy decisions in this sector reside at the political level. In particular, megaprojects can be understood as “political projects”, whose preeminent function deals with the building of political consensus (Beria *et al.*, 2018).

Institutions create the framework of rules for transport policy generation, including megaprojects planning and appraisal, by limiting decision-making and making policy development possible. Therefore, institutional conditions, and the resulting behavior of political actors, are key to understand variations in transport outcomes (Stone, 2014). Under the neo-institutional political

approach, both the historical and the rational choice perspectives are useful to explain different facts in the development of transport policy in general and megaproject planning and appraisal in particular.

The historical institutionalist view has been used, among others, as an approach to address the organizational domain of transport policy, related to formal rules that create and empower organizations (Curtis and Low, 2012). A good example is the work of Dudley and Richardson (2000), who stated that transport policy is usually based on a sustained paradigm that prevails, by which the problem under study is addressed with policy technologies that are supported by powerful organizations and networks of people. They believed that there are three policy streams (problems, policies, and politics) and there are critical junctures of these streams which may promote change.

However, they explain that change may not happen, although it may be needed so that the transport policy is aligned to the public interest. The theory of path dependence mentioned in Section 2.2.1 is consequently used to explain this phenomenon (Dudley and Richardson, 2000). Using a historical institutionalist lens, the transport policy could be explained by a particular historical development, which is sustained because it benefits those who produce it. Curtis and Low (2012) defend that organizational path dependence is linked to how organizational power self-perpetuates a specific view of the problem that is intended to be studied by the organization, as well as the methods of analysis and the solutions.

Under this view, organizational structures can be understood as hubs of policy networks, very successful in resisting policy changes, including policy communities, and professional, intergovernmental and producer networks (Rhodes and Marsh, 1992). Regarding transport policy, organizations have power when they can influence decisions about planning, construction and management of assets, and operate over every function relevant to a particular policy domain with a significant discretionary control over the related expenditure (Low and Astle, 2009; Curtis and Low, 2012). Stone (2008) stated that policy change in this sector is effective if there is a change in these policy networks, which happens if the supporters gain influential positions in the context of a new coalition.

On the subject of megaproject planning, the historical-institutionalist view can be useful to analyze how different stakeholders acquire and

retain policy leverage. In particular, it can clarify how organizational checks and balances affect the persistence of a particular megaproject planning and appraisal approach, for example the closed-system approach mentioned in previous sections. Under this view, institutional factors related to a specific historical policy path are critical in shaping actor behavior in the present (Altshuler and Luberoﬀ, 2003).

On the other hand, regarding the rational choice approach, several authors have studied Congress behavior, and have paid attention to public works decision-making (Ferejohn, 1974; Shepsle and Bonchek, 1997; Jonas and Wilson, 1999). Under this view, individual rationality and collective rationality are opposed.

Olson (1971) is a relevant author on this subject, having introduced the notion that governments do not equally favor the interests of all groups. This author believes that governments favor those who mobilize the most, or those who have the most mobilization potential, according to their incentive structure. This incentive structure is associated with the size of the groups, with what is at stake in the negotiation process and with the distribution of costs and benefits between the parties (Olson, 1971).

Specifically regarding megaproject planning, Altshuler and Luberoﬀ (2003), for example, suggest that the rational choice approach is useful to illustrate, among others, the following phenomena: the tendency of public works proposals to be generated from the local government, and not as part of a central plan, and the tendency of Congress to produce extensive studies and public discussions, to a greater extent, as a way of avoiding potential conflicts and, to a lesser extent, as a way of finding technical solutions. Besides, they also allege that this rational approach is useful to analyze the formation of political coalitions in the initial phases of projects.

### **3.3. THE NEW INSTITUTIONAL ECONOMICS APPROACH: INSTITUTIONS AS GOVERNANCE ADJUSTMENT TO TRANSACTIONS**

NIE has also influenced the analysis of the link between institutions and infrastructure development. The academia has focused on both the role of institutions within the acquisition of the physical construction and components, and the role of institutions in the

services that infrastructure provides. This includes planning, procuring, financing, delivering and regulating megaprojects in the transport sector, such as airports, bridges, ports, rails, roads, buses, subway and tram networks (Estache, 2016).

Several authors working under this body of knowledge have formally analyzed infrastructure delivery, particularly concentrating their efforts on analyzing different forms of regulation. This is intimately related to the “play of the game” mentioned in previous sections; it is linked to how transaction costs can be minimized and efficiency can be pursued (Laffont and Tirole, 1990; Levy and Spiller, 1996; Laffont and Martimort, 1998; Guasch and Spiller, 1999; Laffont and Meleu, 2001). Although the previous authors are focused on infrastructure delivery, the logic behind their analyses can inform megaproject planning. The example used in this paper is the work of Spiller. He proposes a Transaction Cost Regulation framework to analyze the interaction between governments and investors (Spiller, 2008, 2013).

He explains that public contracting, which is usually the way infrastructure projects are delivered, is exposed to several hazards. Firstly, there is a hazard of standard opportunistic behavior, which is related to the existing information asymmetries in idiosyncratic investments; this is linked to bounded rationality and idiosyncratic knowledge. This leads to governance designs in order to limit opportunistic behavior. Secondly, there is a hazard of governmental opportunism associated with the ability of governments to opportunistically change the rules of the game. The government may use standard governmental powers to extract quasi-rents from utility investors. Although the evident determinant of this behavior is the existence of sunken investments, the limits of governmental opportunism are institutional, generating an impact on the selected regulatory schemes. Finally, there is a hazard of third-party opportunism, which is related to public contract scrutiny, considering that the essence of public contracting is its publicity. It may be done by designated agencies, politicians, or other interested groups. The problem is that all of them are biased, and they may be tempted to challenge the probity of the interaction. Both political and economic benefits can be achieved and, given certain complexity, the chance may be exploited even if it may be unethical or illegal. The potential for third-party opportunism depends, again according to this author, on the institutional environment (Spiller, 2013). He mentions that this framework is suited to analyze fundamentally, but not exclusively,

the utility industries. He differentiates them as they present a combination of three features: specific investments; economies of scale and scope; and widespread domestic consumption. In this perspective, transport megaprojects can be reasonably included as well. Basically, the intuition presented in this document is that contractual hazards start taking shape at the pre-investment stage, when megaproject planning and appraisal is developed (Alberti, 2015).

Another good example of this literature has been the work of Ostrom. With her co-authors, she has deepened the analysis of the relationship between the incentives to deliver key infrastructure services, and the social norms and culture in place. She has analyzed collective action in order to obtain collective benefits, in the context of distinct institutional environments (Ostrom, 1990), and discussed how layers of variables related to rules, events and the community affect outcomes (Ostrom, 2005). In Ostrom's view, institutional and cultural factors impact on the expectations of agents' behaviors that are acting in an organized fashion. She focuses on the deeper structure of the game, where rules are the object of choice, in order to focus on what she calls action arenas, where the interaction of participants and an action situation produces outcomes, which are affected by exogenous variables. The rules are part of the exogenous variables and affect the action arena. They are a set of instructions for creating an action situation. The object is to analyze how different combinations of rules, as enforced prescriptions, affect incentives (Ostrom, 2005). From her perspective, individuals are purposive, goal oriented and ultimately rational, whilst being affected by regulations, norms and cognitive elements.

Another good example is the work of Greif. He has studied the behavior induced by self-enforcing institutions, which influence their long-term survival (Greif and Laitin, 2004). He differentiates two complementary approaches to the study of institutions under the NIE perspective: the *institutions-as-rules*; and the *institutions-as-equilibria* approach. The former is developed by North, Williamson, Ostrom and others, where organizations are modes of organizing transactions. The latter sees organizations as components of broader equilibria, affected by institutional elements and the past. It is focused on analyzing how endogenous behavior generates endogenous institutions that perpetuate such behavior. The key, under this second branch, is the study of motivations and regularities of behavior (Greif and Kingston, 2011).



# 4

## THE INSTITUTIONAL ENVIRONMENT OF MEGAPROJECT PLANNING AND APPRAISAL

### *4.1. INSTITUTIONAL ELEMENTS AND VEHICLES*

This document exhibits that neither of the previous approaches is capable of analyzing every possible angle regarding the institutional environment of megaproject planning and appraisal. In this context, it is here recommended to follow Scott (2012) who claims that while one approach may be more suited to study a particular institutional dimension, others may be better suited to study other dimensions.

This author defines institutions as “regulative, normative and cultural-cognitive elements that, together with associated activities and resources, provide stability and meaning to social life” (Scott, 2013, p. 56). This is the definition proposed at the beginning of this document. He claims that these are the three elements or pillars that make up and support institutions.

Scott mentions that the regulative pillar is associated with rule setting, monitoring and sanctioning activities. Under this view, sanctioning may be highly formalized or operated through informal mechanisms. Under this pillar, scholars study the costs of overseeing systems of regulation and their benefits, and use them as an instrumental element. These regulative elements are,

according to this author, emphasized by institutional economists and political scientists linked to the rational choice approach (Scott, 2003, 2012, 2013).

Secondly, the normative pillar is associated with rules that introduce a prescriptive, evaluative and obligatory dimension into social life. The normative pillar is related to values and norms. Values are conceptions of standards and norms that specify how things should be done. Norms are beliefs about how specific actors should behave. These elements are usually emphasized by some sociologists and political scientists working under the historical institutionalist approach (Scott, 2003, 2012, 2013).

Finally, the cultural-cognitive pillar is included to stress the importance of shared conceptions. It is associated with symbols (including words, signs, and gestures), which shape the meaning of objects and activities. Meanings arise from interaction, they are maintained and transformed to make sense of happenings, and are embodied into routines and the organization schema. They are dynamic and affective. These elements are emphasized by organizational sociologists (Scott, 2012) and constructivists.

Scott (2003, p. 881) states that it is important to accept that any given and developed institutional context is made of diverse elements. There are no “pure cases” where only one element is responsible for the outcomes. Nevertheless, he also alleges that different elements may be dominant at particular times in the evolution of institutions.

This author also claims that institutional ideas are also carried by several types of vehicles or carriers: symbolic systems, relational systems, routines and artifacts. For each element he proposes different carriers (Scott, 2003).

Regarding the regulative element, symbolic systems are rules and laws, relational systems are governance systems and power systems, routines are protocols and standard procedures and the artifacts are objects complying with mandated specifications. Considering the normative element or pillar, symbolic systems are values and expectations standards, relational systems are regimes and authority systems, routines are jobs and roles, and artifacts are objects meeting conventions and standards. Finally, regarding the cultural cognitive pillar, symbolic systems are categories, typifications and schema,

relational systems are structural isomorphism and identities, routines are scripts and artifacts are objects possessing symbolic value (Scott, 2003, p. 882).

The following are among the key questions that this author believes should guide the study of how institutions change and diffuse through space and time: What carriers are associated with which institutional elements? What carriers are likely to be employed in combination? What causal arguments are associated with each of the carriers? How do the types of carriers involved in the transmission of institutional elements affect the ways in which these elements are received and interpreted?

#### **4.2. INSTITUTIONS LINKED TO MEGAPROJECT PLANNING AND APPRAISAL: HYPOTHESES FOR LATIN AMERICA AND THE CARIBBEAN**

This document is concerned with the fact that the institutional environment of megaproject development in Latin America and the Caribbean does not seem to be promoting an open system approach to planning and appraisal (Alberti, 2015, 2019).

Using Scott's framework, it is reasonable to state that there may be cultural-cognitive, normative and regulative elements that could be promoting a closed systems approach to planning and appraising megaprojects. Countries are usually confined to a model of project life cycle or phased stage-gate approach, probably linked to a conception of megaproject success linked to project management efficiency or economic efficiency. There is an institutional environment that does not promote a holistic view of megaproject success and therefore an open-system approach to the planning and appraisal of megaprojects, which could eventually accept megaproject complexity and non-linearity, addressing the power of context and the influence of the participating stakeholders, reflecting the actual criteria used in the decision-making process (Alberti 2015, 2019).

The cultural-cognitive elements of this institutional environment could be better assessed using a sociological institutional or constructivist approach to the analysis of institutions. Using this body of knowledge, it could be hypothesized that there is a social interpretation of the problem, an idea or intrinsic value, installed in the social and political

arena, by which project efficiency and economic efficiency are prioritized over sustainability, equity, regional development, political pay-off, and other equally important criteria.

The normative elements, on the other hand, which are the rules that introduce a prescriptive, evaluative and obligatory dimension, could be best analyzed using a historical institutionalism view of the political approach to institutions. Under this view, it could be hypothesized that there is an institutional inertia or path dependence as a consequence of a sustained paradigm: the economic efficiency and project management efficiency view of megaproject success. This path dependency is linked to particular policy technologies or governance structures, which are supported by powerful organizations, such as the construction industry and the professional/consultancy sector, among others.

Finally, the regulative elements could be probably best assessed using a rational choice view of the political approach or a new institutional economics approach. Under this view, it could be hypothesized that there are specific rules of the game that are strategically put in place in order to benefit those who are in charge of planning and appraising megaprojects, or those who are represented by those in charge. Using a rational choice approach, the hypothesis could be that there may be some lobby groups who have mobilization potential, which are being favored by this particular policy. Using a new institutional economics approach, it could be hypothesized that there are specific characteristics of megaprojects that impose contractual hazards, and therefore transaction costs, that are being minimized using this planning and appraisal approach.

Probably the case for a sustained closed system approach to megaproject planning and appraisal is based on several institutional elements, carried by several types of vehicles: symbolic systems, relational systems, routines and artifacts. It is not reasonable to state that this is a “pure case” where only one element is responsible for the outcomes. On the contrary, it is the view of the author, and the expected message to be delivered by this document, that the whole institutional environment, which includes several institutional elements, is promoting this closed-system approach to megaproject planning and appraisal.

# 5

## SUMMARY

To sum up, this position paper has firstly summarized the general conceptualizations and contributions of three approaches to institutional analysis: the sociological approach to institutions; the political new institutionalism; and new institutional economics. Subsequently, it has succinctly reviewed how each one of them has been used to analyze transport policy development or megaproject planning and appraisal.

It is here alleged, firstly, that Scott's framework for institutional analysis is useful to illuminate the complexity of the subject here studied (Scott, 2012). This author claims that there are three pillars of institutions: regulative elements, normative elements and cultural-cognitive elements. The regulative elements refer to rule-setting, monitoring and sanctioning activities, the normative element is associated with rules that introduce a prescriptive, evaluative and obligatory dimension into social life, and the cultural-cognitive is related to symbols (including words, signs, and gestures), which shape the meaning of objects and activities. According to the author mentioned, there are no "pure cases" where only one element is responsible for the outcomes, and depending on the pillar under analysis, one of the previously mentioned approaches to institutions may be more suited as a conceptual framework to thoroughly analyze the problem.

Building from the previously discussed blocks, this document hypothesizes that the three pillars of the institutional environment of megaproject planning and appraisal in Latin America and the Caribbean are jointly promoting a closed-system approach to planning at the pre-investment phase. There is probably a social interpretation of the problem, an idea or intrinsic value, installed

in the social and political arena, linked to a particular view of megaproject success, that promotes this closed system approach. Besides, there may be an institutional inertia, linked to particular governance structures and policy technologies, which is supported by interested organizations. Finally, there may also be some specific characteristics of megaprojects that impose specific transaction costs, which are being minimized using the current rule-setting when planning and appraisal is developed.

This document lays the foundation for new research, which would be useful to elucidate if there is or there is not an element that is dominant at this particular moment in the evolution of the institutional context of megaproject planning and appraisal in the region. It is here recommended that future research on this subject acknowledge that the three institutional perspectives here studied can be useful as conceptual frameworks to study the different dimensions of the institutional environment.

# 6

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