

IMPLEMENTATION OF INNOVATION POLICIES THROUGH RESEARCH AND DEVELOPMENT PROJECTS

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This paper analyses types of policy instruments responsible for the success of policy implementation through projects. Based on comparative case studies, the paper provides an analytical perspective from real practice about how and why various types of instruments lead to either successful or unsuccessful projects. Particularly, the key finding is that, in order for projects to implement successful policies, policy instruments must be designed based on composite thought systems related to flexibility. Results provide the key direction, but without the holistic conceptual component of developing the implementation theory, which needs to go beyond conceptual fragmentation and polarization.

Keywords: innovation policy, implementation instruments, thought systems, innovation projects, flexibility

INTRODUCTION

Facing increasing demand and capacity-related constraints in national research systems, the EU has set policies regarding innovation, which, due to the size and complexity of research systems, are best implemented by means of multiple projects and multi-national programs (Jamieson and Morris, 2007). The most important limitations within the existing empirical research are associated with the endogenesis of the public support for research and development and biased selections, which is apparently involved in program implementation (Lee, 2011).

In addition, lacking generalization, implementation theory also suffers from polarization, because research studies examine implementation in both top to bottom and bottom to top approaches. Top to bottom approaches ignore the local agency and focus on control of actors, by coercive and normative mechanisms, while bottom to top models are based on the fact that implementation agencies will fit, due to the existence of remunerated and normative mechanisms (Sabatier, 2007). Most studies generally prefer a top to bottom approach, which provides legitimacy for policy elaboration, is easier to use when research is undertaken and simplifies the tool design process (O'Toole and Meier, 2004).

The aim of this paper is to approach this decisive conceptual gap in the policy implementation theory, explaining the cause-effect relationship between policy instruments and project performance. The argument in this paper is that this causality can be investigated by analyzing real examples of the way in which different types of instruments influence the management of similar innovation projects. In this regard, evidence has been gathered to answer this question: what types of policy implementation instruments contribute to successful projects (why and how)?

CONCEPTUAL FRAMEWORK AND RESEARCH HYPOTHESES

Most implementation studies analyze a public research and development program specific to an industry or a country and those dealing with data on multi-project, multi-

country are almost non-existing (Lee, 2011). This study approached this vacuum by selecting two integrated comparative cases that incorporate several case studies (Yin, 2003). The two policies in the SSH/FP7 program (innovation, competitiveness and labour market policies / economic structures and productivity) were chosen to be incorporated in two projects from two different coordinating countries. The program was chosen because its main goal was to implement innovation in the socio-economic area, in similar periods and political contexts, but the main difference was that they used different implementation instruments. The reason behind this choice was that the two cases incorporated had many things in common to facilitate minimization of variations, but their significant difference allows comparison of effects that various instruments have in the implementation process.

METHODOLOGY

The Research Instrument

The undertaken process involves first of all, the examination of policy and project documentation, such as official publications (legal documents, etc.), prior and subsequent assessment reports, official websites which have been used to build the background for each of the two studies. Secondly, a total of 31 semi-structured interviews, of which 13 were conducted with managers of project 1, 18 interviews with managers of project 2, and with project participants.

Sample and Method Description

The analysis was performed according to techniques suggested by Miles and Huberman (2002) regarding a first process within the case and a second one comparing the cases. Data regarding project management tasks were classified as planning, communication and control/coordination task (Tables 1 and 2); implementation instruments were grouped into two categories (conventional and systemic); performance was classified into results and output (Table 3) and project success was classified into the actual implementation of technology and management of unforeseen situations (Table 4). Subsequently, grouped data were transferred to comparative matrices and by means of data reduction techniques, the common categories were identified in the incorporated cases. The final set of models was transferred in causality chains to discover the cause-effect factors between project instruments and results.

A summary of resulting causal factors is presented in Tables 1-4.

Table 1. Corroboration of models for tasks of project manager 1 (based on empirical data)

Project management tasks	Method	Explanations
Planning	Planning as it is	Project manager provides output reports with aggregated data regarding project results, not output processes. Plans are flexible with certain focused goals and then there is the flexibility to decide upon the course of action.
Communication	Frontier management	The main tasks of the project manager throughout the project. Formal and informal. The project

Project management tasks	Method	Explanations
Control and coordination tasks	Loses output-oriented control task	manager communicates through frontiers with the government (national and EU), the network, peers and promotes the laboratory network (3 interfaces). Low at operational level, because project managers did not have the lever effect to impose data management standardization regarding laboratories or control over resources.

Table 2. Corroboration of models for tasks of project manager 2 (based on empirical data)

Project management tasks	Method	Explanations
Planning	Top to bottom prescriptive plans	The project manager meets the requirements of the contract/compromised tasks to match WBS plans, project managers have limited negotiation power with both EU and Consortium partners.
Communication	Info-crazy (standardized communication procedures)	Focus on external communication with customers - limited communication with other projects – various partner objectives – distance between participants/dictated by contract and participation rules. Other project interfaces (for instance, users) are marginalized.
Control and coordination tasks	Loses output-oriented control task	Low at operational level, because project managers did not have the lever effect to control project teams – fulfilling the contract – various partner objectives inhibit task control

Table 3. Comparison of results from both incorporated cases (based on empirical data)

Policy	Strategic objectives	Implementation instruments	Project management	Output	Results
Project 1	Stimulates implementation of innovation through collaborative projects	Systemic-providing resources, organizing collaboration through interaction and monitoring of results, flexibility to manage, learn, communicate, experiment and network	Systemic-focus on mediation between various limits by interested parties to meet project objectives	Compromise and efficiency objectives	Medium development (differs depending on the project)
Project 2		Traditional-financial and management instruments – monitoring the management	Normative-focus on managing borders for a positive assessment	Compromise and efficiency objectives	Ceremonial development*

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Policy	Strategic objectives	Implementation instruments	Project management	Output	Results
		process by participation rules and operational criteria	from the sponsor		

* Ceremonial development refers to the ritualic-symbolic trend where project results (as in meeting project performance criteria) have been presented in evaluations, but these results do not really represent real large-scale market implementation results.

Table 4. Comparison of successful completion of projects in the two programs, defining success as technology implementation on the market and the nature and management of change (based on empirical data)

	Result is implemented	Nature of change in plans and activities	Facing change
Case studies			
Project 1			
1	Yes, frequently	Plans are increasing, specific for this situation	Adaptation-asks for assistance from other professionals
2	Yes, little	Plans are increasing, specific for this situation	Cost and diversity of professional practice
3	No-very little	Plans are increasing – rather formally – but not frequently, borders of management and laboratories	Cost, diversity of professional practice and various strategic plans
Case studies			
Project 2			
1	No	Incremental development – no major deficiencies	Does not use change
2	No	Technical-trivial	“Ineffective” management (which has led to problems with technical completion) as well as lack of emergency planning or efficient management of change
3	No	3-month extension for results	
4	No	6-month delay, had to change project manager in the first nine months	
5	No	Bad WP planning and loss of technical objectives	
6	No	6-month extension, the technical component did not work	Communication procedures and sponsor procedures have not been flexible enough
7	No	Bad planning – unrealistic expectations	
8	No	Many delays – problems with hospital administration	
9	Yes, partially	Generally successful plan – minor changes	Market changes have not allowed full development, but the product is launched on the market

Validity of Content

The role of project managers in all cases has proven to be that of mediator who negotiated between the policy and limits of the laboratory and made adjustments to implementation activities making compromises between the practical needs of network stakeholders and program objectives. In fact, project managers have worked systemically, managing and adjusting both activities and relationships (Table 1).

Project managers had to prioritize between network participation level, quality of reported data, reliability of reports and software protocol development.

Managers of project 2 have frequently focused on the idea of filling a position and anything that deviated from the plan was avoided or ignored. In other words, managers have focused on showing that the project was developed efficiently and that evaluation objectives were met (Table 2). In some cases, it was reported that managers were marginalized by their own team and in two projects they were selected particularly to deal with administrative tasks and not to “intervene” in work packages.

Essentially, instruments of implementing the socio-economic program did not allow project managers to manage: this lack of flexibility in management activities has led to weak leadership, group coordination problems and loss of focus.

CONCLUSIONS

This study aims to identify effects of policy implementation instruments on project performance. The research question was what types of policy implementation instruments contribute to successful projects (why and how)? To answer this question, two multi-project multi-country EU programs were chosen as incorporated cases, each corresponding to a FP7 policy of implementing innovation in the socio-economic area. The main objective of these programs was to implement innovation, both having similar periods and political contexts, with the main difference that they used different implementation instruments. The objectives and structures of each policy had common goals: to stimulate change and develop innovation in the socio-economic area by the users. Moreover, both policies have had similar structural problems: they were related to subsidiary and targeted the fragmented, diverse or underdeveloped national infrastructure, with extended capacity. It was found that both policies had objectives that were either optionally or partially in conflict. On the one hand, managers of project 2 were given a choice between validation and development, the former objective being by far the easiest choice, while, on the other hand, managers of project 1 had to implement three objectives: network expansion, data collection and development of a new network.

Regarding policy instrument debate, project 1 used systemic instruments, including both performance control (minimum critical specifications) and relational instruments. As a result, collaboration opportunities existed, plus a sufficient margin to manage through project limits with users and within the project team, as well as having the flexibility of dealing with change in plans. By contrast, project 2 used conventional instruments incorporated in standardized evaluation procedures and, as a result, the system was rigid, with little or no evidence of frontier management and efficient provisions for management of change.

In conclusion, project flexibility appears as an essential factor to successfully implement policies. Evidence from the case studies shows that flexibility must be

integrated in designing policies as systemic instruments aiming at reaching policy objectives through successful projects.

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