

# Distinguishing Standards and Regulation for Innovation Research: Accommodating Standards in Lessig's Framework of Regulatory Modalities

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## ABSTRACT

Certain influential innovation impact studies do not sharply distinguish standards from regulation. Is differentiation needed? In what way do they differ in how they work and work out? This article applies and extends a framework of regulatory modalities to open up the black box of direct innovation effects. It includes standards as a separate regulatory modality following careful consideration of alternatives, i.e., accommodating them as a special instance or as a hybrid of law, norm, market and architecture. The authors capture the essential differences between standards and law. They reconcile Lessig's emphasis on constraints with findings of enabling and constraining effects in innovation research by differentiating direct inherently constraining effects of regulatory modalities and modality-specific direct generic effects - as opposed to indirect effects. They conclude that standards and law merit separate treatment in innovation research, and recommend complementary frameworks to uncover unaddressed issues.

## KEYWORDS

ADICO Grammar, Architecture, Code, Community Innovation Survey, Constraints, Direct Effect, Inner Workings, Regulatory Modalities, Regulatory Standards, Self-Regulation, Tools of Governance Approach

## 1. STANDARDS AND REGULATION: IS NON-DIFFERENTIATING A PROBLEM?

It is not uncommon for laypersons as well as professionals to talk about rules in an undifferentiated manner, for example, in the context of bureaucracy. Rules, among which customs, norms, regulations and standards guide human behavior (Baer, 2011, p. 277) “[These] terms (...) are often used indiscriminately (or at least interchangeably) and no agreed set of definitions exists.” (Carmona, 2017, p.6) Likewise, studies on effects of standards and regulation on innovation<sup>1</sup>, the setting of this article, often also do not distinguish the two – neither theoretically nor empirically (Hawkins & Blind, 2017, p. 5; Blind, Petersen & Riillo, 2017, p. 258). Is this a problem? Before continuing, let us illustrate lack of differentiation in this field by taking a closer look at the formal definition of standards (section 1.1) and at the UK version of the Community Innovation Survey, a data gathering tool used in high profile innovation research (section 1.2).

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### 1.1 ISO/IEC Definition of Standard

One might expect formal standards bodies, under whose auspices standards are developed, to define standards in a way that sets them apart from regulation. The official international standardization bodies of ISO and IEC define a standard as:

*(...) a document, established by consensus and approved by a recognized body that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context. (ISO/IEC, 2016)*

However, examining the definition element by element standards do not differ significantly from regulation.<sup>2</sup> See Table 1. Note that the demarcation problem exists specifically between standards and regulation. The ISO/IEC definition is not so general that it could encompass any rule-type. For example, a ‘de facto standard’ concerns a product or service that emerges from the market; it is not established by consensus and is not a priori meant to achieve an ‘optimum degree of order in a given context’; and a social norm, a cultural phenomenon, is typically not documented or explicitly ‘approved by a recognized body’.

### 1.2 Community Innovation Survey

The lack of differentiation is also illustrated by research commissioned by the UK government concerning the influence of standards and regulation on innovation (Swann, 2000; DTI, 2005; King, 2006; Swann & Lambert, 2010), research which has strongly inspired our own (e.g., Ortt & Egyedi, 2018). The researchers were offered the opportunity to incorporate a restricted set of additional questions on standards in the UK version<sup>3</sup> of the Eurostat Community Innovation Survey (CIS3; DTI, 2005, p. 37, 80). The UK CIS3 (2001) for the period 1998-2000 included three questions on standards for UK companies (DTI, 2001; Eurostat, 2001):

- Question 8.1 asks respondents to comment on a range of factors that may inhibit the enterprise’s ability to innovate, including the ‘Impact of regulations or standards’. They are asked to grade the importance of these constraints. (adapted from Eurostat CIS3 question 10.2<sup>4</sup>)
- Question 11.1 asks respondents to indicate the impact their innovation activities have had on their enterprise, among which the effect of having ‘Met regulations or standards’ (compare Eurostat CIS3 question 6)
- Question 12.1 asks respondents to rank the different sources of knowledge or information used in innovation activities. The different sources include ‘Technical standards, Health and safety standards and regulations, and Environmental standards and regulations’.

Except for one element in question 12.1, the survey questions do not distinguish between standards and regulation. Is this problematic? One might argue, pragmatically, that such a distinction would have been meaningless to most respondents anyway. Or more principled, that it would not matter if

Table 1. Key elements of the ISO/IEC definition of standard applied to regulation

ISO/IEC definition of standards Rules/ Institution	Rules, guidelines, characteristics for activities or their results	Documented	Consensus (negotiated agreement)	Approved by a recognized body	For common & repeated use	Aim: optimum degree of order in a given context
Standard	X	X	X	X	X	X
Regulation	X	X	X	X	X	X

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