

Innovation Policy Learning

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Veröffentlichungsversion / Published Version

Sammelwerksbeitrag / collection article

Empfohlene Zitierung / Suggested Citation:

Biegelbauer, P. (2013). Innovation Policy Learning. In E. G. Carayannis, & D. Campbell (Eds.), *Encyclopedia of Creativity, Invention, Innovation, and Entrepreneurship (CI2E)*. New York: Springer. <https://nbn-resolving.org/urn:nbn:de:0168-ssoar-353515>

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Metadata of the chapter that will be visualized online

Chapter Title	Innovation Policy Learning	
Copyright Year	2013	
Copyright Holder	Springer Science+Business Media, LLC	
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2 Innovation Policy Learning

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7 Definition

8 The term innovation policy learning stands for
9 the change of innovation policy-relevant knowl-
10 edge, skills, or attitudes, which are the results of
11 the assessment of past, present, or possible future
12 policies (Biegelbauer 2013).

13 Emergence of the Term and 14 Development of Research

15 The approaches utilizing notions of policy learn-
16 ing share a conviction that the activities of policy-
17 makers can be explained by understanding these
18 actions in terms of feedback cycles used in order
19 to assess previous actions. Policy-makers engage
20 in learning in order to make sense of the world
21 they live in, to gain a better understanding of the
22 effects of their policies, and to arrive at better
23 decisions in the future.

24 The notion “innovation policy learning” can
25 be traced back to two different discussions, one
26 rooted in political science and the other in eco-
27 nomics. In political science, learning has been
28 discussed as a category of policy analysis since

the 1960s, when Karl Deutsch introduced his 29
cybernetics of government (Deutsch 1966). 30
Another milestone for the development of the 31
term was Hugh Heclo’s book on British and 32
Swedish social policy (1974), in which he writes: 33
“Governments not only, ‘power’ . . . they also 34
puzzle. Policy-making is a form of collective 35
puzzlement on societies behalf” (Heclo 1974, 36
305). With this terminology, he captured one of 37
the basic premises of the discussion on policy 38
learning, namely, that political action cannot be 39
explained alone by looking at interests and insti- 40
tutions and how they relate to power, which 41
would be the classical categories of political sci- 42
ence. Rather policy-makers also engage into 43
efforts to solve what they perceive to be policy 44
problems (Bandelow 2003; Biegelbauer 2013). 45

Similarly influential is the “advocacy coalition 46
framework”, developed mainly by Paul Sabatier 47
(Sabatier and Weible 2007). In this framework, 48
political processes are located in policy subfields, 49
which are characterized by competing advocacy 50
coalitions that may or may not change their 51
belief structures through learning. At about the 52
same time Peter Hall found that the change 53
from Keynesian to monetarist economic policies 54
in the early 1980s was best explained through 55
social learning. His theory engulfs three targets 56
of policy change, settings of policy instruments, 57
policy instruments themselves, and finally 58
policy paradigms, which are the ideational struc- 59
ture policies are embedded in and which most 60
importantly explain the scope and the workings 61
of policies. Social learning proper encompasses 62

63 the change of policy paradigms, something
64 happening only rarely (Hall 1993).

65 In the 2000s, policy learning approaches have
66 been further developed, through, for example,
67 critique of key terms (Maier et al. 2003), the
68 further expansion of concepts of social learning
69 (Oliver and Pemberton 2004), the advocacy coal-
70 ition framework (Sabatier and Weible 2007),
71 and of interpretative approaches (Grin and
72 Loeber 2007), which also have integrated ideas
73 from organizational sociology (Argyris and
74 Schön 1978).

75 The second debate in which the term innova-
76 tion policy learning is rooted stems from evolu-
77 tionary economics. Neoclassic economic theory
78 originally has exogenized innovation as a factor
79 of economic development (Biegelbauer 2000).
80 Yet with a number of empirical studies analyzing
81 the production factors' input on growth carried
82 out in search for new growth models, a new set of
83 models was created in the late 1970s (Rosenberg
84 et al. 1992). Joseph Schumpeter's vision of a
85 dynamic and evolutionary economy (Schumpeter
86 1971) was integrated into a number of studies
87 (e.g., Nelson and Winter 1982; Carayannis
88 and Ziemnowicz 2007), which transcended the
89 disciplinary boundaries of economics and led to
90 a view of economic growth and technological
91 change, which has increasingly been rivaling the
92 neoclassical economic model ever since.

93 The key difference between the old neoclassi-
94 cal models and the newer Schumpeterian ones is
95 that the latter are more dynamic in their
96 evolutionary perspectives (Hofer 2003).
97 With regard to technological change, this
98 means an endogenization of the innovation
99 process. Similar to the neoclassical model, the
100 new models see technological change as
101 the main driving factor for economic growth.
102 However, since the new models are interested in
103 explaining technological change, they assume the
104 production function to include factors such as the
105 level of technology or more broadly the stock
106 of knowledge, investments into R&D, skills of
107 the work force (human capital), indicators of
108 the complexity of institutional arrangements,
109 and the like, aside physical capital (Biegelbauer
110 2000).

111 In evolutionary economics, an important
112 mechanism for the creation of knowledge and
113 skills is learning. This notion has been developed
114 especially by Bengt-Age Lundvall's concept of
115 the "learning economy" (Lundvall 1992).
116 Lundvall has differentiated between different
117 forms of knowledge and skills, some of which
118 had been rather neglected by economic theoriz-
119 ing before. This is especially the case with
120 non-codified knowledge which accrues through
121 "learning by doing" and forms an important
122 knowledge base upon which a lot of innovation
123 activities are based.

124 The wider framework of Lundvall's conception
125 of a learning economy is the concept of "national
126 systems of innovation" (Freeman 1987; Lundvall
127 1992; Nelson 1993), "the network of institutions in
128 the public and the private sectors whose activities
129 and interactions initiate, import, modify and
130 diffuse new technologies" (Freeman 1987).

131 The notions of learning economies and
132 national systems of innovation transformed in
133 an ongoing process what was before science,
134 technology, higher education, and industry
135 policies into innovation policy (Biegelbauer
136 and Borrás 2003; Edler 2003; Carayannis and
137 Campbell 2006). This move impacts on the
138 selection of policies as well as on the ways
139 policies are perceived. Policy instruments have
140 become more complex and are constructed to
141 fulfill a multitude of purposes for the needs of a
142 multitude of actors, and their effects are expected
143 to be systemic (Kuhlmann and Smits 2004;
144 Weber 2009). These changes have been
145 interpreted as policy learning closely connected
146 to the developments in the area of evolutionary
147 economic innovation theory (Mytelka and
148 Smith 2001).

149 **Ramifications for Innovation Policy and** 150 **Policy Analysis**

151 A number of policy instruments have been
152 devised to foster policy learning: evaluations,
153 benchmarks, foresight exercises, impact assess-
154 ments, expert commissions, and studies have

155 been utilized to make policy-making ever more
 156 evidence-based and rational (Biegelbauer 2007,
 157 2009; Biegelbauer and Mayer 2008).

158 Especially the European Union has built
 159 a whole learning architecture as part of the
 160 Lisbon Agenda and the Strategy 2020, both
 161 featuring the main goal of making the EU the
 162 most innovative and competitive region of
 163 the world. These strategies make use of the
 164 open method of coordination and its plethora of
 165 learning instruments. The exact nature of the
 166 open method of coordination, for example, the
 167 degree of its formality, differs from policy field to
 168 policy field (Borrás and Greve 2004; Borrás and
 169 Radaelli 2011). In RTDI policy, it engulfs
 170 a variety of rather informal networks, projects,
 171 and platforms in which experiences with RTDI
 172 policy-making are to be analyzed and exchanged
 173 (Lisbon Expert Group 2009). An important role
 174 plays a set of indicators, the Innovation Union
 175 Scoreboard, which has been developed in order to
 176 ease a systematic comparison of the EU member
 177 states' experiences – the Innovation Union
 178 Scoreboard covers the 27 EU member and 7
 179 additional countries with 25 innovation
 180 research-related indicators as part of the EU's
 181 Strategy 2020, which has replaced the EU Lisbon
 182 Agenda in 2010 (Biegelbauer 2012).

183 In the 2000s, efforts have been made to
 184 integrate the two strands of research described
 185 here, one from political science and another one
 186 from evolutionary economics, in order to
 187 better understand innovation policy learning.
 188 This has taken the form of historical analyses of
 189 innovation systems and innovation policy on
 190 national (Biegelbauer 2000) and supranational
 191 (Edler 2003) levels, of comparisons of national
 192 systems of innovation (Biegelbauer and Borrás
 193 2003), analyses of the relation between innova-
 194 tion theory and policy development (Mytelka and
 195 Smith 2001), critique of (naïve) benchmarking
 196 exercises (Lundvall and Tomlinson 2001), and
 197 the open method of coordination in innovation
 198 policy (Lisbon Expert Group 2009).

Conclusions and Future Directions 199

200 From the research on innovation policy learning,
 201 several conclusions can be drawn for the further
 202 development of policy analysis. First of all, the
 203 concentration in the research field on rational
 204 decision-making in the sense of the maximization
 205 of personal utility should be balanced with other
 206 perspectives on decision-making processes. Pol-
 207 icy-making is not only about a quest for power
 208 and influence, it is also about gaining knowledge,
 209 solving problems, and dealing with historically
 210 contingent norms and practices in the form of
 211 institutions, discourses, and culture (Gottweis
 212 1998; Prainsack 2011).

213 Second, these different factors, for example,
 214 interests, cognition, institutions, discourses, and
 215 cultures, all play a role in the policy-making
 216 process, which is much messier, less sequential,
 217 and rational as usually depicted in the statements
 218 of politicians, accounts of journalists, but also
 219 social scientists (Hoppe 2009; Biegelbauer 2013).

220 Third, there is an urgent need for a fine-grained
 221 empirically driven policy analysis recognizing
 222 the messiness of decision-making processes
 223 instead of producing more schematic depictions
 224 of policy-making utilizing models of lower
 225 solution. Such a policy analysis could lead to a
 226 deeper understanding of the interplay of factors
 227 leading to policies and stay closer to accounts of
 228 policy-making one can hear from policy workers
 229 once the microphone has been turned off. Such a
 230 policy analysis could further our understanding
 231 of policy-making, and it moreover would be
 232 also useful for providing orientation and reflec-
 233 tion knowledge for politicians and civil servants.

Cross-References 234

- ▶ Innovation Policies 235
- ▶ Innovation Systems and Entrepreneurship 236
- ▶ Joseph A. Schumpeter and Innovation 237
- ▶ National Innovation System/National
 Innovations Systems 238
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Uncorrected Proof