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Institutional Reflexivity - An institutional approach to measure innovativeness of firms

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Keywords

Absorptive Capacity, Dynamic Capabilities, Competence-Based View, Institutional Reflexivity.

Abstract

How can we understand the *innovativeness of firms* or organizations in general, and how should we assess it in terms of *nontechnological innovation*? My paper deals with these two questions. The “ability” of companies to adapt to new circumstances, to create new products, processes and new knowledge, has been conceptualized in many approaches. Some of them simply define a list of “(critical) success factors” or “(key) performance indicators”, as tools for ranking and evaluation, without any theoretical reference. Others, like the resource-based or capability-based approach(es), work with theoretical references, but are still very weak in operationalizing of what they call “capability”. My paper gives a critical description of this situation and offers a new proposal to classify and to measure the “inclination” of organizations to innovate in all dimensions. This proposal roots in pragmatic thinking as represented in the theory of reflexive modernization and in the pragmatist version of organizational learning theory. Empirically, it has been applied merely in case studies yet. A survey project is in preparation.

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1 Dead Ends of Capability Approaches in Innovation Research

Assuming that it makes sense to measure innovation or innovativeness, we find the measurement of innovation advanced on the macro and meso level. It is well established for national and regional benchmarkings in a policy perspective (for instance by the OECD, by the European Commission with CORDIS, or by the US e.g. with the Massachusetts Index of the Innovation Economy). However, the situation is different on the level of firms, or organizations in general. Of course, using *output*-indicators like patents, the number of new products per year, or the turnover-share of new products, is wide-spread. Even more common is the use of *outcome*-indicators like ROI or growth (of value, market share, employment). But in the predominant empiricism, where authors interpret correlations as causality and claim to have identified the “critical success factors”, causal relations between innovation indicators and performance remain considerably uncertain. And these indicators contain information basically *about the past*. If one wants to assess how firms will probably do in the future, this basis allows only for simple extrapolation.

Since the standard view is that markets are becoming more turbulent, and development times shorter and shorter, the focus of discussion in management and innovation research shifted from traditional performance measurement to the measurement of innovative abilities. And that means: more to the *input factors* for innovation. This happened parallel to a paradigm shift in management science from a structural to an action view, from an outside to an inside-perspective (adaption vs. creation), from a market-orientation to a competence-focus, and from the structure-conduct-performance-paradigm of industrial economics to the resource-conduct-performance-paradigm of the Competence-Based View. Of course, this shift from contingency theory to competence theory was necessary, particularly in order to acknowledge the role of *endogenous* forces of change, to understand the increasing importance of knowledge production in modern economies, and to explain performance differences among companies within an industry (the traditional lack of neoclassic market theories). They contrast a non-historic economic thought process with an *evolutionary* (Nelson/Winter 1982) or learning theory perspective (see also Wilkens et al. 2004), in which (core) competencies of companies are considered long-term, mature bundles of resources and capabilities (path dependency, see also Dierickx/Cool 1989). However, in return for this they encounter new gaps and weaknesses, some of which I will outline here.

(1) *Internalism (internal determinism)*

First, it leads just into the opposite dead end of contingency theory when observed (or ascribed) performance gets generally attributed to internal potentials (competence, ability, knowledge, strategy). One single-sightedness is replaced by the other: a view toward the outside by one toward the inside, an adaption view by a creation view.

Is that also true for the Competence Based View (CBV, e.g. Teece et al. 1997) which emerged as a *Process School* from the initial and more static Resource-Based View (RBV) the 1990ies (see e.g. Moldaschl/Fischer 2004)? In the CBV, corporate success is no longer explained by an optimal fit between corporate strategy and environment, as in the market-based view, but rather by innovative actions that constantly create new market imbalances. In principle, it does not derive competitive advantage mechanically from the availability of resources, but rather from the *capability* to use them in a meaningful and innovative way. A critical insight, which truly only gets down to business with its *distinction between resources and services*, which was already applied by the “ancestor” of resource approaches, Edith Penrose.

“It is never *resources* themselves that are the ‘inputs’ in the production process, but only the *services* that the resources can render. (...) The important distinction between resources and services is not their relative durability; rather it lies in the fact that the resources consist of a bundle of potential services and can, for the most part, be defined independently of their use, while services cannot be so defined” (Penrose 1959/1980: 25).

I quote this well-known passage here again, because it is of key importance for all further arguments, for the critical ones as well as for those relating to an alternative concept (Section 5). In fact, even if the CBV makes a step forward when it activates the concept of “services” by capabilities of making use, innovation research on this basis did not yet offer a satisfying understanding of the basic dialectics of routine and innovation, as addressed e.g. by Leonard-Barton (1992). The fact that precisely the successful practices (core competencies) can easily turn into “core rigidities”, which are very difficult for organizations to give up. Also Nelson’s and Winter’s (1982) routine-focused evolutionary approach fails in this respect. Thus, the mechanically positive attribution of competencies as “success factors” replaced the latent resource determinism in the RBV.¹

¹ “Competence resides in the tacit capability of the firm that results from a process of continued and collective learning, and is embodied in the firm’s localised skills and organisational routines” (Cantwell, 1992). “Heterogeneous knowledge bases and capabilities among firms are the main determinants of sustained competitive advantage and superior corporate performance” (Eisenhardt/Santos, 2002: 139).

(2) *Circularity*

This contributes much to the tendency toward tautological explanations.² The success (and failure) of companies (or persons or nations) is generally traced back to capabilities and their combinations. But *which of them* are superior, however, is only evident *ex post*, from the achieved rents (Porter 1991; Priem/Butler 2001; Foss 2003). The indicators which point on superior competences tend to be the proof too.

What about a company that fails with its innovative product, as happened to many biotech companies? Did the company actually have insufficient innovative capability? Or was it lacking marketing competence? Why don't we then speak about failure capability? Or was it not due in any way to internal qualifications, but rather to external conditions (laws, being squeezed out by competitors with greater market power, etc.)? Does a company that has satisfied employees have satisfaction competence and/or the capacity for gratification, or does it perhaps have only unambitious employees?

(3) *The capability to do everything right in the future (empty generalism)*

When Peters und Waterman (1982) introduced their concept of *excellence*, they had in mind something similar to the concept of core competencies: a specific combination of success factors. Ten years later, the majority of "excellent companies" had dropped off their list (Pascale 1991: 18f). The problem that one cannot know which core competencies will be in demand in the future, has been taken up by countless authors, responding with concepts or labels that claim to conceptualize the ability of firms to survive or to be successful *in the future*.³

Thus it is no longer specific competencies that quickly (shall) become obsolete which are now considered relevant, but rather a type of *meta-competence*, a capability to be, to remain or to become competent, i.e. to innovate oneself. A universal capability, or capability to develop universal capabilities? A capability competence? Teece, Pisano and Shuen (1997: 516) define their *dynamic capabilities* as "the firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments" In other words: capabilities for creating capabilities or the *capability to be or remain competent*. A *PerfectAbility* - an ability to do everything right in the future? The concept of *architectural capability* meets with a similar interpretation today. While Henderson and Clark (1990) had used it to identify a capability for combining technological components (with reference to the distinction between incremental, radical and architectural innovation, i.e. a capability for system innovation), some overexpand it to a *capability of combining capabilities* (e.g. Stoll/Schäffer 2005).

Specific skills (knowledge, skills) are seen as neglectible compared with „higher order“ capabilities.⁴ This concept is widespread and appears to be plausible. If market conditions continue to change faster and faster, at the level of individual competencies, occupations and professions need to be replaced by a general capability to change oneself, a capability for life-long learning, etc. (*employability*). That would mean: it is no longer necessary to have knowl-

² Even if Barney warned: "Simply because firms that compete in imperfectly competitive product markets enjoy above normal returns does not necessarily imply that firms that adopt strategies to *create* these product market imperfections will enjoy above normal returns" (Barney 1986: 1231f.).

³ Such as "innovation ability" (Witte 1973), „organizational intelligence“ (Wilensky 1967; McMaster 1996) or „organizational fitness“ (Beer 2003), „core competence“ (Prahalad/Hamel 1990), "absorptive capacity" (Cohen/Levinthal 1990), „architectural capability“ (Henderson/Clark 1990), „combinative capabilities“ (Kogut/Zander 1992), „strategic change capabilities“ (Pettigrew/Whipp 1993), "dynamic capabilities" (Teece et al. 1997), or „knowledge-processing capabilities“ (Jantunen 2005). Others compete newly for attention and difference, like „reconfigurability“, "innovative adaptability", "metaskills" and "metacompetence", etc.

⁴ Higher and higher, following Zollo and Winter (2002: 341): In a "turbulent environment" not only core competencies need to be constantly updated, but also the "...dynamic capabilities and even the higher order learning approaches will themselves need to be updated repeatedly."

edge and skills, but rather must know where knowledge can be found and how one learns. And yet it appears that he already exists: the modern sales expert, who only knows who could know something; or the (post)modern truck driver who is no longer *able to* drive at all, but who simply must know how to learn to drive ... A context-free „best ability“-view, analogous to best practice-thinking, and resulting in a great mystification or *mystifconfusion of abilities*.

(4) *Lack of operationalization and studies with methodical rigor*

No wonder that these meta-competences and universal capabilities are difficult to operationalize. Hence, we find a predominance of case studies with descriptive plausibility with obscure or simple operationalizations. As an example, Cohen and Levinthal (1990) define their famous and citation-striking *absorptive capacity* as “...the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends” (ibid.: 129). And how do they operationalize it? Just by a single variable: R&D expenditures, in comparison to the overall expenditures. The greater the share in R&D expenditure, so goes the assumption, the greater the absorptive capacity. No one will dispute the fact that this aspect of investment reveals something about the firm's chances in the future. The OECD and the EU Commission use the same indicator for regions and nations. But why does one need a capability concept for this? According to this logic, firms with high personnel costs would have to have a high level of personnel capability or Human Resources Capacity. That would almost make more sense if we attributed a high defensive (or aggressive) capacity to companies with above-average attorney and court costs.

If this and other concepts just avoid to discuss these questions by very formal indicators, others “solve” the problem just by asking the managers whether they/their company has high competences or dynamic capabilities (e.g. Pavlou/Sawy 2005).

2 Institutional Reflexivity as a Dynamic Capability?

As a conclusion, I want to propose a conception that examines the innovativeness of organizations (a) without any reference to concepts of (cap)ability. (b) It prefers *observable*, objectifiable indicators (captured by observation, document analysis, condition-focussed interviews) for innovative or innovation-friendly routines, (c) which are understood as institutionalized practices or rules (why it can be labelled as *rule-centered*). The focus lies (d) on the contribution of *reflexive practices* to innovativeness and innovation performance, (e) addressing *all dimensions* of innovation (technical, organizational, financial, social, cultural). And finally, it does not claim to cover all relevant aspects of the innovation process; instead (f), it explicitly offers a selective focus on institutionalized practices of making use of resources (intellectual, social, technical, ...), not analyzing the resources themselves, thus being designed for a *complementary* analysis of resources for innovation. In my view, this is the prerequisite for integrative studies of cycles of resources and use, understood as institutional learning.

The conception of “Institutional Reflexivity” focuses on the question, how firms keep their procedures and premises open to revisions, and which institutions they impede “lock-ins”. One could perhaps label these institutions also as “dynamic capabilities”, if wishing to emphasize their resource character. But that’s precisely what I want to avoid here. The concept grew out, theoretically, of modernization theories and pragmatistic theories of organizational learning. And, practically, out of the strange observation that firms invest so much time and money in change and innovation projects, and so little interest and willingness in an evaluation of the experiences and outcomes without reservations. We interpret this as part of the enormous *hysteresis* or *inertia* in organizational change, as it can regularly be observed (also in our research and consulting projects). We found it evident that it was by no means only the

particularly successful practices that were sifted out in unreflective routines. Some rules had not simply become inadequate, but appeared to be more or less dysfunctional at all times, like restrictions of direct communications between departments and status groups.

Although we are surrounded everywhere by modernization rhetoric, which makes everything “fluid”, disposable, in need of justification and revisable, i.e. “reflexive” within the meaning of the theory of reflexive modernization (see also Beck/Bonß 2001, for example), we consistently have experiences to the contrary in organizations (and in our own daily lives). Rules and interpretations are maintained, actively defended or virtually immunized against “falsifying” influences and realizations. If we want to adequately describe and understand organizational modernization, we must be able to carry this out to the same extent when it comes to change and persistence.

The term *reflexivity* has been widely disseminated in many social-scientific discourses and essentially stands for “modern” mechanisms of change; either, as with Ulrich Beck, for misunderstood modifying repercussions of social activities of this itself, or for a more or less conscious processing of the consequences of action in terms of learning. I am referring to two aspects here when I mention *institutional reflexivity*:

- As a *social phenomenon* or as a feature of organizational practice, it is interesting as to how organizations observe themselves, analyze the consequences of actions and change their rules. It is interesting how they do that, and which rules and/or institutions they create for this purpose.
- As an *analytical concept*, it provides suitable criteria for observation and evaluation by means of which the level of institutional non-learning (“innovation barriers”) can be evaluated, or vice versa, the institutional willingness and capability of the organization (“dynamic capability”), to continuously examine the routines and orientations in use (theories-in-use).

2.1 Reflexivity as a characteristic of modernization processes

Modernization theories have described the duplication of possibilities to act and thus of requirements for making decisions as a general trend of modern times, encoded them with terms such as “functional differentiation” (Luhmann), “multi-option society” (Gross) or “reflexive modernization” (Beck, Giddens). The number of practical and cognitively available design solutions and rationalization strategies in which decisions are “rendered as not taken for granted/non-obvious” are also on the rise in the world of organizations. If the number of options increases, so does the contingency, i.e. the reciprocal conditionality of design decisions. At the same time, their outcomes are thus more difficult to predict. Instead of unfolding more or less “naturally” along practices that have been handed down, the rationalization process becomes increasingly bound to justification or “*reflexive*”, as was pointed out most clearly by Ulrich Beck (1986, 1996). It is *the* hallmark of the modern: tradition (no longer) has any validity, if it cannot be rationally justified and thus legitimized. In principle at least *nothing is excluded from the duty of justification and the possibility of revision*.

Of course the category of reflexivity stands for two contrary meanings. On one hand, it stands for the old optimism of enlightenment (expansion of rationality). On the other hand, for the uncontrollability of the consequences of an increase in rationality and modernization (pessimism of control). Entwined around these meanings is not only the controversy of Beck, Giddens and Lash (1994), but also the entire organizational/theoretical debate. My thesis is as follows: the category of reflexivity can only be made useful for organizational/theoretical analyses if it integrates these partially conflicting meanings in a dialectic manner.

(1) The first meaning is that of *self-reference*: the organization as a social system observes and creates *itself*. This meaning particularly highlights the organizational theory as proposed by Luhmann. The fact that social systems generate and organize themselves, i.e. are not controlled from the outside, is the paradigmatic basic assumption of this theory, which would make it tautological at least in its tradition, when speaking of reflexive self-production. The reflexive aspect can be found in the concept of the Self. Of course it is conceived as being completely without a subject in this case, as a system concept, which describes the repercussions of a system output on the system itself (as in an “autopoietic” chemical reaction). The natural sciences have two concepts that fittingly characterize this relation: reference to self and recursivity. Surprisingly enough, Ortmann also uses this notion of reflexivity a lot in his texts, although he mainly makes reference to Giddens (see below). As is well known, both the system theory and the micro-political organizational theory are extremely critical of rationality and skeptical of control. Our differentiation shows that while the production of the organization principally refers to itself, it is not necessarily reflexive in terms of the following two meanings.

(2) The second meaning emphasizes *secondary consequences* of goal-oriented action. A process is therefore reflexive if it actively takes on and processes the secondary consequences of actions that have a (recursive) effect on it. Beck in particular tends to accentuate the aspect of systematic secondary consequences when using the term “reflexivity” (modernization processes react to it, without the players having to cognitively reflect it). From this perspective, every “solution” is also concurrently presented as a “problem“, and attention is geared toward the paradoxical, contra-intentional effects of players’ strategies.⁵

(3) The third meaning of the term “reflexivity” is associated with the category of *knowledge*. In many contexts it is the only meaning used and understood more or less cognitively. For Giddens (1990), the most prominent representative of this semantics, reflexivity is *the* essential feature of modernity. In the form of the “reflexive monitoring of action” it is omnipresent, since the complexity of modern communities virtually no longer allows for traditional, routine activities.⁶ For every possible action and for every current solution there are alternatives, each with a unique opportunity and risk profile, among which one has to choose on the basis of knowledge and by means of calculation.

<i>Self-reference</i>	<i>Side-effects</i>	<i>Knowledge Dependence</i>	<i>Reflexivity (integrative)</i>
<ul style="list-style-type: none"> ▪ Feedback of system output to the system, e.g. of communications to a communication system (<i>recursivity</i>) ▪ Subjectivity & insight not required ▪ Basis: causal interlinking, communication networking ▪ Examples: oscillating 	<ul style="list-style-type: none"> ▪ Unintentional and possibly undesirable consequences of goal-oriented activities ▪ No insight required; but possible ▪ Basis: unrecognized conditions of action Complexity 	<ul style="list-style-type: none"> ▪ Necessity of knowledge-based decision ▪ Insight and knowledge required ▪ Basis: complexity, breaking away from tradition; ability to make things non-routine 	<ul style="list-style-type: none"> ▪ Being aware of the conditions of our own knowledge and the lack of straightforwardness of consequences of actions in complex systems ▪ Insight constitutive; Subject required ▪ Basis: experience of embedding; expertise; willingness to criticize self

⁵ One of the noted analysts of paradoxical effects in the field of organizational research is Perrow (1984), who stand out for his verification of insecurity by means of safety strategies that increase complexity.

⁶ Giddens’ understanding of modernization basically conflicts with that of Beck. While Giddens feels that the essence of modernization (i.e. from the beginning on) consists of increasing reflexivity, Beck ascribes it in his diagnosis of a *change of form within* the modernization process only in the latter part of the 20th century.

chemical reaction; recursion equations; market phenomena; self-fulfilling prophecy	<ul style="list-style-type: none"> ▪ Examples: getting fat from eating; terror due to combating terror; personnel migration following qualification 	<ul style="list-style-type: none"> ▪ Examples: shopping in environment of wide variety of goods; eating in times of Genefood; selection of consultants 	<ul style="list-style-type: none"> ▪ Example: 360 degree feedback; (voluntary) supervision methods; risk communication
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Table 1: Three common encodings of reflexivity and a proposal for integration

(4) One would then either need to constantly explain which meaning one is referring to when speaking of a reflexive practice, or one can – and this is what I suggest – define reflexivity in a more exacting and “more exclusive” way, by consolidating the three connotations (*Table 1*). More exclusive means that a practice must feature more than one of the characteristics in order to call it reflexive. If recursivity only denotes a repeated reaction, then reflexivity denotes an understanding of it. It has to do with the applied effective awareness of an (individual or collective) practice of its systematic embeddings and the inability to know the results of actions. This mode of consciousness is not only critical in terms of a request for rational justification, but also in reference to itself, i.e. *self-critical* in the sense of not hiding its own prerequisites and limits. It is then perhaps reflexive in terms of being self-referencing and self-clarifying when the media reports about how the media reports about politics. Or when the history of the science of history is written.

These designations can refer to Action, Knowledge and Learning. *Reflexive Action* is therefore acting in the consciousness of one’s own situation and of the problem of secondary consequences. The antagonist of this wide-ranging rationality is a rational mode of thinking and acting, which is always inclined to arrive at the wrong conclusion by taking the high-speed line of thinking without any detours. And *reflexive knowledge* is knowledge about this knowledge itself (knowledge of the second order).

Which of the three mentioned courses of reflexivity a certain practice takes, which one in general and to what extent, whether a process is only recursive or is also reflexive in terms of our “three-dimensional” definition, can only be determined empirically. It is not recommended, therefore, to follow Anthony Giddens in this respect. Reflexivity has surely increased in his sense during the process of modernization, both from an individual and institutional perspective, but there is certainly no omnipresence as a result of complete implementation. We must assume that reflexivity is, firstly, constantly being covered by new routinizations, like a clearing in the jungle is covered by exuberant growth. This is the basic dialectic of “effective innovation”. Secondly, that reflexivity is *situated*: its extent and quality depend on context. The concept is incompatible with context-free assumptions like: The more reflexivity, the more innovation, or success.

2.2 Analysis of institutional reflexivity

Applying institutional reflexivity as an *analytical concept* thus implies evaluating management concepts and organizational methods in accordance with the extent to which they generally, i.e. depending on opportunity, promote absorptive capacity for findings which contribute to the *revision* or *innovation* of previous points of view and practices.⁷ Organizational bodies of rules or practices that do precisely that can therefore be characterized as reflexive institutions, or in fact as *institutionalized reflexivity*. How can we now determine the extent of institutional reflexivity in organizations? I will outline this in three steps: (1) a definition of criteria, (2) standards of evaluation and (3) contextualization.

⁷ *absorptive capacity*, on the other hand, means more and less: more, because it also pertains mainly to new technological or market *knowledge*; less, because the question of revision is not posed systematically.

(1) *Capturing potentially reflexive institutions: Criteria*

The following five criteria operationalize the three reflexivity modes. For institutions that meet the respective functions, we can assume that they will increase the likelihood of revision or innovation of previous perceptions or practices. I will outline them briefly and give a few procedures of corporate practice as examples in each case, which can all be put “under suspicion of reflexivity” in advance.

(a) *Institutionalization of self-observation and self-criticism.* Which devices *within* companies aid in reflexive monitoring? Insofar as such institutions become topics of discussion in classic models of corporate management at all, they are comprised of the governing bodies Top Management and Supervisory Board. They must design and examine the strategic orientation. Over the last several decades, especially in larger companies, more and more entities and procedures were created for subjecting all of the other ones to regular testing. Departments for *Social Affairs*, *Think Tanks*, and the like (see below) were added to departments such as *Organizational Development* and *In-house Consulting*. And even *controlling departments* are being integrated into the strategic monitoring process more and more, such as when instruments like the Balanced Scorecard or knowledge statements are to be used to record and re-manage strategically relevant “intangible assets”. The *continuous improvement process* can also be considered a possible instrument of continuous criticism of practices, e.g. “employee evaluation” in the “360° Feedback”. Search and *questioning heuristics* such as the methods of 5 Whys or Ishikawa charts also institutionalize the everyday willingness to falsify and prevent certain routines, rules, topics or functions from being excluded from criticism a priori. And the *court jester function* – the only reflexive institution of absolutism.

For example Trumpf, a mechanical engineering company in Württemberg which has the reputation of being innovative, explicitly introduced the job of a court jester. The job holder systematically has to take a contrary and unpopular position, searching for counter-arguments and disadvantages even in the case of supposedly assured views. Assigning the role is a formal process and the job rotates on a yearly basis; in this way, each holder of this role is somewhat exonerated of the inevitable risks associated with handing out criticism. The Siemens headquarters in Munich had a similar function, but wore the leading figure out as could be expected because the person never changed. The function holder met with the same fate as that of a brightly colored bird among grey herons: he/she becomes isolated. In a best case scenario, the model was at best only “simply reflexive”, because it was not applied to itself.

(b) *Systematic recourse to outside observation.* The most well-known import of outside reference is surely corporate consulting. Revisions are more likely, however, when companies are “irritated” by systemic consultants rather than “assured” by expert consultants. With reference to Luhmann, others suggest *responsiveness* as a criterion (openness to the environment and sensibility, not to mention “resonance capability”). They thus designate the communicative connections with the “outside” and the willingness to accept signals from the player’s environment. The probability that their impulses will be processed innovatively will depend equally on the extent of institutionalized self-criticism. Also associated with this is, among other things, the *analysis of customer complaints*, the *cooperation with critics* (up to the point of their “purchase”)⁸, *round tables*, *mutual hospitation*, the use of *boundary spanners* (e.g. Endres/Wehner 1995; Duschek et al. 2001). Benchmarking functions without internalizing, to a certain extent at a distance, and often treats the perspectives and practices of others as a black box, or – for lack of knowledge – must treat them so. In this form, I therefore assign it to the fourth criterion.

⁸ The “purchase” of critics need not necessarily be assessed as a measure of immobilization or “symbolic politics”. The fact that the German Shell AG, for instance, hired the former Senator for the Environment of Hamburg after the Brent Spar-affair can also be interpreted as the internalization of critical competence and – together with others – as an indicator of a revision of corporate politics.

(c) *Communicative allusion to external reference*. By that I mean the external referential “forms of self-representation” as outlined by Luhmann (1984). Within a corporate context, this is on one hand about *reporting practices* in reference to anticipated or experienced external perceptions, i.e. not simply advertising as the intentional production of an image, but rather, about an examination of external images in a way that refers to the interpretation model of others. That is: communication about communication in the “environment”, oriented as communication about communication “outward”. On the other hand, *accountability* in a narrower sense is also addressed, that is the more or less obligatory *reporting* of a company requested from “outside” (in contrast to internal reporting, or accounting). This includes not only the required documentation (e.g. on toxic emissions), i.e. *institutionalized reflexivity in legal form*, but also other types of *reporting* extending beyond this, such as environmental reports and Corporate Social Reporting (CSR, see below).

(d) *Open evaluation of the consequences of action (sensitivity)*. If the first and second criteria concern the creation of feedback channels, then the fourth pertains to the creation of content. It pertains to all types of *evaluation* of activities for other players and the “environment”, provided that includes *secondary consequences* and is not limited only to the (purposeful) measurement of deviations from specified target criteria. An initial sorting criterion for the premonition of reflexivity results in the question of whether evaluation is only about efficiency or whether it also encompasses effectiveness, i.e. *the possibility of criteria and objective revision*. This rarely applies to evaluations in the university sector, for example. *Benchmarking* on the other hand is one of those true “key elements” of the evaluation explosion. Companies use it to definitively “measure” their performance and practices compared to competitors, but also in areas where there is no competition, so as to initiate it or imitate it in those instances. Companies thereby create competition by location, and for public establishments, benchmarking in the New Public Management is the main tool for creating pressure for rationalization and other changes. For Giddens, this in itself would be reflexive. Benchmarking would only assess a more challenging version in this way if, alongside direct economic target criteria, embedding aspects (e.g. social and ecological parameters) were also being evaluated. In actual fact, in addition to profit, per-person sales or growth, the “soft factors” are being used increasingly in comparative measurements, such as customer relationship management and customer satisfaction or innovative capacity. Similar surveying procedures, such as *customer questionnaires*, are of course being used as well and for the most part independently, and are integrated into the *Balanced Scorecard* (see below) in other ways, for example. This is another reason why assigning concrete procedures to the criteria is not unrelated to context.

(e) If the return of uncertainty is a characteristic of the late modern period, then *accentuating not-knowing* and the *outlining of alternative presences and futures* are strategic replies by the companies. If they make the growing number of options for taking action, the conditions and consequences of which cannot be overlooked, easier to process with *scenario techniques* and similar procedures, this can be called *strategic optionalization* (or even *perspectivation*). Procedures which institutionalize such things, i.e. put them on a continuing basis and disassociate them from the disposition of individual persons, include but are not limited to the following: *systematic changes in duties, roles, departments and company* and also *parallel development teams*; Japanese firms are considered particularly active in this regard (see also e.g. Nonaka/Takeuchi 1995). We might also include *creativity techniques* such as role play (e.g. the Six Hat Method by Bono, 1989). These are also basically *decentralizing rules*, as in criteria 1 and 2.

(2) *Evaluating reflexive practices*

All these practices can be observed or surveyed easily by standardized surveys. But it is clear that we cannot consider them on their own or primarily as measures for increasing (institutional) reflexivity. It is an aspect, a possible function. A company with a department for organizational development, which pursues organizational innovations in an engineering rationality, has certainly institutionalized a change organization, but not necessarily reflexivity. And vice versa, many procedures in specific implementations have nothing reflexive about them. Just to mention Management by Objectives (MbO), which is more likely to be translated as “Management by Oktroy” rather than found as reflexive negotiation of objectives and resources. Or *controlling*: it can also be virtually anything, from the embodiment of the belief in controllability and fiction of rationality to the central instance of reflexivity in companies. In order to evaluate the extent to which the identified practices warrant this, adequate quantification is required. I have already mentioned a few possibilities for this in passing. The following are to be considered:

- (a) The number of channels for feedback and the degree of feedback (in the quantitative dimension of ‘recursivity’).
- (b) The reach and/or the objective and time-based horizon of long-range effects (in the qualitative dimension of ‘secondary consequences’). Which players and systems with respect to which consequences in which spaces and time periods are included in monitoring?
- (c) Revision of criteria and objectives: to what extent are these provided for and permissible in the self-evaluations? Which measures and objectives are actually being assessed and which ones are made taboo?
- (d) The degree of applying or abandoning reflexive rules or procedures. Does environmental monitoring have any consequences at all? And if it does, what significance does it have in the decision-making process?
- (e) Self-application: to what extent is the respective test or distancing procedure applied to itself? To what extent does it become an object of the testing and revision itself (e.g. as an evaluation of the evaluation)? To what extent are failed measures learned, and to what extent are they displaced?

Which type of quantification is selected (ordinal, dichotomy, etc.) will have to be decided on a case-by-case basis. At any rate, not all could be captured by standardized interviews without studying experts.

(3) *Contextualizing institutional reflexivity*

The two steps outlined here provide information on the ‘what’ and the ‘how much’ of institutional reflexivity, but no assessment of its *context suitability*. As little as perhaps determining the skilled worker portion of a labor force. Whether a company needs a lot or a little reflexivity also depends on the context. Why, for example, should one evaluate the organization of garbage collection primarily on the basis of enabling organizational innovation? Arguably, if need be, with regard to the collection of toxic materials, where the type of material constantly changes. After all, we do not measure the function of a lawn mower by means of its acceleration from zero to one hundred, or the efficiency of a cleaning crew on the basis of the patents that it has applied for based on its expertise.

Moreover, the above criteria do not provide any *normative* evaluation from a corporate standpoint to be defined. In the same way that social capital is not good per se (it is mostly discussed as the glue of bourgeois society, and not as a bonding agent of parasitic collectives such as the Mafia or certain functional elites), reflexivity is not good per se. More so even than Beck, for whom reflexivity initially consists in good intentions becoming obsolete due to

the bad secondary consequences, reflexivity in Giddens' view appears as the all-embracing assurance of discourse and democratization. If, however, Deutsche Bank revises its foreign-referenced self portrayal and no longer announces its dismissal operations at the same time as its record profits – who else benefits from that other than its shareholders? For this reason as well, it cannot be a matter of “the more, the better” when it comes to evaluating reflexivity. A third argument, on the other hand, is that organizations (as well) must find a balance between learning and routine, irritation and confirmation, and therefore change and stability. The debate on organizational learning demonstrates this in particular.

3 Summary

Can the indicators of Institutional Reflexivity be used as “indicators for innovation the 21st century” on the organizational level? To answer the question practically: In the context of the audit explosion, many of the indicators defined here are already produced in practice. Not only to measure innovativeness, but also to benchmark performance, and to assess the side-effects of economic action. In the conception of Institutional Reflexivity they get integrated and added. What can we do with it as an indicator system?

(1) Of course, the study of relations between Institutional Reflexivity and innovation performance might be the obvious and „standard“-application. Yet, the approach has only been applied in industry case studies (just as we criticized as prevailing in the CBV-practice). A quantitative project will start next year (2) Beyond that, we also can use it to study the sensitivity of organisations (e.g. in governance studies) with respect to stakeholders, environment, or market reputation, i.e. to assess how firms deal with “externalities”.⁹ In both applications, it can and should be used in combination with a resource-oriented analysis. The procedures how to allow e.g. for creativity do not measure the existing and applied amount of creativity, equally with respect e.g. to the level of trust between innovation actors. (3) A third application is the critical conceptual analysis of existing management-tools with respect to their “capacity” to support (or impede) reflexivity and learning in organizations (e.g. Intellectual Capital Measuring, Human Resources Controlling). That's what we are actually doing in a project, with recommendations for tools and application modes for practitioners. Finally (4) it can be used (and we use it) in action research projects and consulting as an instrument for diagnosis and participative design.

Using the analytical perspective of ‘institutional reflexivity’, we can describe and evaluate institutional requirements for the convertibility of corporate structures and cultures, which are coded elsewhere as capabilities. But a “the more...the better” logic belongs to success factor research. The assumption of superiority *in principle* cannot be justified. This contradicts the concept of reflexivity itself, in particular that of self-application. Empirical findings also proof that, such as those of the early experimental institutional economics. Heiner (1986) or Gigerenzer, for example, show that the blind application of rules in circumstances of a high level of uncertainty delivers greater hit rates and profits than knowledge-based flexible strategies. We know this also as the “housewife effect” in stock exchange events. More complex knowledge implies more sources of error: “More information generally leads to more uncertainty” (Michael 1996). And finally, legitimating facades as defined by Meyer and Rowan (1977), which to a certain extent can be interpreted as a segregation from reflexivity, nevertheless safeguard the organizational decision-making processes outwardly and inwardly, stabilize reciprocal behavioral expectations and are therefore “functional” in various respects. Context matters.

⁹ Empirical texts can be found on our homepage: www/tu-chemnitz.de/wirtschaft/bwl19

In addition, with all the acceleration in technological development, generation of knowledge and globalization, companies ultimately do not sell the capacity to change (except perhaps for a few consultants), but rather this or that product or service. The concept of institutional reflexivity already has a built-in brake against maximization thought. The question is only *how* organizations make sure in *every* area of their activity whether their practices are still appropriate for the situation, or whether routines in relation to the meaning of established rules have already become blind and only justify themselves in a self-referential manner anymore. The remaining paradox is the desire to institute meta-rules against the locking-in-place of rules, and methods of thinking against the blindness of thinking methods. But the paradox is a practical one, not an academic-circular one.

The task of a concept of institutional reflexivity is therefore to justify (a) both the necessity and (b) the limits of necessity of organizational self-observation and self-surveying in various contexts. In addition, (c) assumptions must be developed about the conditions under which to evaluate the “rendering as special” of reflexive functions as meaningful, dangerous or ambivalent, that is, their functional separation from the everyday practices. And finally, it must provide (d) observation criteria, by means of which the degree and quality of reflexive action as well as its suitability with respect to the requirements to be reconstructed can be empirically evaluated (criteria for the observation of self-observation). With reference to observations of the first order, the perspective of institutional reflexivity becomes a design perspective, with respect to observations of the second order (observation of the observer), it is or remains an analytical perspective. With reference to science (self-observation of the observer, or self-application), the difference does not disappear, but loses some of its sharpness.

And finally, we must not forget the “fuzzy relationship” between the description of organizational arrangements as rules or as resources (capabilities, capacities, etc.). They can be regarded more calmly if we remain aware of the imagery of the competence attributions.

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