LOOKING FOR COMPLICATION:
FOUR APPROACHES TO
MANAGEMENT EDUCATION

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This article argues for the adoption of complicated approaches by management educators. The argument rests on the position that if uncertainty and ambiguity are inherent to management, particularly in view of the profound changes that have occurred during recent years in the competitive environments of organizations, there is the need to develop complex managers, that is, managers more skilled in dealing with uncertainty and ambiguity. Four approaches (hypertext, dialectics, linkages, and metaphors) are presented to illustrate complementary ways of operationalizing the logic of complication in a management education context. These approaches have the potential for increasing the awareness and alertness of management students to the challenges with which they will probably be confronted in the emerging competitive landscapes.

Keywords: complication; hypertext; dialectics; linkages; metaphors

Authors’ Note: We gratefully acknowledge the insightful comments from the anonymous reviewers as well as the suggestions and encouragement from the associate editor, Gordon Dehler. Address correspondence to Miguel Pina e Cunha, Faculdade de Economia, Universidade Nova de Lisboa, Rua Marquês de Fronteira, 20, 1099-038 Lisboa, Portugal; e-mail: mpc@fe.unl.pt.
It is frequently claimed that organizational environments are becoming more complex and dynamic. To use the words of Bettis and Hitt (1995), new competitive landscapes are emerging, marked by increasing levels of uncertainty and ambiguity, and leading to what is now known as hypercompetition (D’Aveni, 1994). Management educators may be interested in accompanying these changes to help managers in shaping organizations in such a way as to make them willing and able to respond to complex organizational challenges. In brief, it may be advantageous to expose business students and managers to complication.

This article discusses the limits of simplification and how complication may help to circumvent them. The argument rests on the position that if uncertainty and ambiguity are inherent to management as a human activity, they should not be ignored in the context of management education (e.g., Gallos, 1997). The gap between the complexity of organizations and the simplicity of educational strategies, however, may be widening because of the rhetoric of fast action and the diffusion of universal prescriptions (Glynn, Barr, & Dacin, 2000).

In this article, we discuss some reasons that may lead managers toward a logic of simplification, the disadvantages of such logic, and how to overcome it. In particular, we discuss why the logic of simplicity may be parsimonious and adequate for ease of comprehension and for purposes of professional socialization. However, this logic does not elucidate the complicated nature of organizing. The need for complication in management education is therefore advocated. By complication, we refer to the capacity to see and interpret organizational phenomena from multiple perspectives (Bartunek, Gordon, & Weathersby, 1983; Dehler, Welsh, & Lewis, 2001; Weick, 1979).

The article is organized as follows. We start by discussing why current management theories may be simplistic for interpreting complex environments. We argue that despite criticism, the logic of simplification seems to prevail, even in the face of contradiction. As a result, the need to develop complicated understandings through management education is advanced. We suggest four approaches for complication: hypertext, dialectical thinking, linkages, and metaphors. The article does not address the pedagogy of complication (for that purpose, see Dehler et al., 2001) but, rather, approaches to complication, or possible ways of developing complicated understandings. Before considering the relevance of complication, the logic of simplification is discussed in the next section.
The Logic of Simplification

In this section, we aim to answer three questions: (a) What is the logic of simplification? (b) Why is it so seductive to managers and management educators? and (c) What are its disadvantages? These questions are pertinent in the sense that organizational behavior depends on interpretations of reality (e.g., Gherardi, 1998). If people interpret reality as being simple, they will act accordingly, but an organization (or its environment) does not become simple because someone perceives it that way. Simplicity, though elegant, is often untrue (Eisenhardt, 2000).

Nonetheless, simplification thrives in academic models that strive for parsimony and generalizability. Complicated thinking, therefore, is often sacrificed, with organizational researchers and educators acting as homogenizers of the pluralistic world we live in (Glynn et al., 2000). Many textbooks, for example, present organizations as relatively simple systems: They do not discuss ambiguity, they ignore the existence of contradictory empirical evidence, they do not discuss ambiguity, and they do not reflect on the frustrations or the areas of ignorance of the research community. To the contrary, as argued by Fineman and Gabriel (1994), textbook rhetoric is grounded on solidity and certainty, with many textbooks being described as look-alikes (Dehler et al., 2001). In these sources, organizations are portrayed as systems composed of many interrelated parts, which is indeed a measure of complexity, but the rules for organizing these parts are laid out as if grounded on solid evidence. Such rules can be accessed through a Newtonian mind-set that management has appropriated and improved upon since the inception of the discipline. It is based on a simplification- and segmentation-based approach that seems to resist the challenges of post-Newtonian science. More than textbook rhetoric, however, simplicity may be an ingrained characteristic of organization theory. As discussed by Boulding (1956) in his classification of systems complexity, there is a discrepancy between the degree of organizational systems complexity and the complexity of the models developed in the social sciences to study such systems. As noted by the author, organizations are often analyzed on the basis of “overly simple mechanical models,” whereas organizational systems are “far beyond our ability to formulate” (p. 207).

Simplified representations of organizations may be misleading because they distract us from the essential: how to prepare people for the essence of organizing, that is, ambiguity and interpretation (Daft & Weick, 1984). If managers seem to be selective and consistent in their interpretations, the reinforcement of such a tendency through management education will not only legitimize but also bolster the tendency toward simplification (e.g., Starbuck
& Milliken, 1988). Simplicity or “the narrowing, increasingly homogeneous managerial ‘lenses’ or world views” (Miller, 1993, p. 117) may be developed by managers as a result of education and experience, spearheading a growing desire for further simplification. In fact, confidence in past accomplishments may lead to a decrease in the motivation to seek information (Ashford & Cummings, 1983). This, in turn, may result in a reduced sensitivity to environmental change, as this sensitivity depends on the amount of information sought (Daft & Weick, 1984). Additionally, managers seem to prefer information that is congruent rather than incongruent with their own perspective (Nystrom & Starbuck, 1984). All of the above suggests that simplification may be a management tendency and that people often overvalue a particular perspective, precluding competing views or undervaluing their relevance. Miller and Chen’s (1994, 1996) empirical research confirmed the perils of simplification by showing that oversimplification may be harmful for organizational practice. As such, it may be wrong to reinforce the simplification agenda in educational settings instead of exposing students/managers to the risks it may involve.

Furthermore, when more and diverse descriptions of a system are offered, the perception ensues that it is complex, with subsequent managerial action potentially reflecting such elaboration (Tsoukas & Hatch, 2001). Under contrasting views, managing no longer means learning to better use the very same set of rules but instead learning the system from a different set of rules—a distinction that echoes the discussion on single- and double-loop learning (Argyris & Schön, 1978).

Multiple understandings (e.g., theoretical diversity, alternative frameworks) may constitute a good way for improving management learning and performance, as empirically demonstrated by Kilduff, Angelmar, and Mehra (2000). A look at management education, however, shows that discourse and prescription are often engaged in the pursuit of simplicity. Why, for example, do management textbooks and managerially orientated prescriptions insist on the presentation of relatively simple theories of organization? Why do some managerial techniques of dubious value achieve enormous popularity? A possible answer is that simple theories have the appeal of elegance and universality. Simple heuristics may not reflect the functioning of organizations but does provide a perception of control that may be a valuable psychological resource for people trying to make sense of and act upon complex organizations.

In the next section, we discuss four possibilities for avoiding the limitations of simplification: hypertext, dialectical thinking, linkages, and metaphors.
Escaping From Simplicity

Having discussed the logic of simplification and its limitations, we now examine some means for overcoming it. A critical moment in the simplicity/complication debate was Weick’s (1979) defense of the need to raise complicated understandings: “complicate yourself” (p. 261). This argument may be best understood through reference to the law of requisite variety, which for our purposes can be described as arguing that it takes a complex theory to understand a complex organization. Considering that to deal with variety one needs variety, if the environment is full of variety, organizations in such an environment must be similarly varied. Returning to Weick,

If a simple process is applied to complicated data, then only a small portion of that data will be registered, attended to, and made unequivocal. Most of the input will remain untouched and will remain a puzzle to people concerning what is up and why they are unable to manage it. (p. 189)

The defense of complicated understandings of organizations has deep roots in the social sciences (see Bartunek et al., 1983). Because organizations and environments are complex, they cannot be captured with “simple mechanical models” (Boulding, 1956, p. 207). Therefore, an important role for management educators is to help students achieve complicated understandings.

In this section, we introduce our typology of approaches to complication, which is depicted in Figure 1. The typology revolves around two dimensions: the first refers to ontology and the second to epistemology.

The first dimension, then, refers to the ontological assumptions about the nature of management and organizations. Two possibilities are explored: independence and interdependence. The independence perspective is based on the premise that different units of meaning coexist within what is conventionally called an organization and that a given unit has a reality of its own. For example, organizational-, group-, and individual-level dynamics have idiosyncratic features that can be analyzed independently. These levels, of course, can be linked, but they can also be considered to be sufficiently independent to be studied by different scientific communities. Each community should therefore explore a given feature of the organizational reality, with the cumulative efforts of the research community as a whole putting together the pieces of knowledge created independently. In the same sense, independent metaphorical views can be developed, which provide different images of organization. Each metaphor develops a unique understanding of the organization, which needs to be challenged by competing metaphors. The power of
metaphor resides in its capacity to provide independent representations of reality. Under a perspective of interdependence, in turn, knowledge is created through the simultaneous focus on multiple units of meaning. In this case, the focus is on the inner complexities of organizing. Cross-level impacts and management paradoxes illustrate the interdependence perspective, which highlights the tensions and ambiguities of organizational life. Several arguments provide evidence favorable to the interdependence perspective. For example, the transition from one level to the next is not linear. In the same sense, organizations seem to be pervaded by paradox and contradiction.

The second dimension refers to epistemological issues. Two major approaches are considered: differentiation, which considers that a given topic may be better understood by decomposing it into its constituent parts (or representations or tensions); and integration, which focuses on the aggregate properties of a system instead of on its microcomponents (organizational dynamics are the emergent results of the interactions taking place at lower levels of analysis). Each of these approaches has a long history in man-
agement as well as in other research fields. Traditional approaches to man-
agement were based on the logic of differentiation. We can consider, for
example, the cases of scientific management, bureaucratic theory, strategic
planning, and management by objectives: They all approach organizations
on the basis of differentiation and accept that the world should be approached
through analysis. The logic of integration, in turn, is the essence of systems
thinking, from Von Bertalanffy (1956) to Katz and Kahn (1978). It is also
present, for example, in the gestalt psychology school. According to this per-
spective, the whole is more than the sum of its parts, and understanding those
parts may not lead to knowing the whole. Integration may also be considered
the hallmark of the complexity approach to management, which focuses on
the emergent properties of organizations (e.g., Eisenhardt & Bhatia, 2002),
meaning that one should pay less attention to reified things and more to ongo-
ing processes. Through integration, one aims to acquire knowledge by com-
bining different elements. Integration highlights the recursive nature of orga-
nizing, whereas differentiation delves into multiplicity by challenging one
representation with another.

The combination of these dimensions results in four different approaches:
hypertext (integration/interdependence), dialectical thinking (differentia-
tion/interdependence), linkages (integration/independence), and metaphors
(differentiation/independence). These approaches are described below.

HYPERTEXT

The hypertextual approach pursues complication through integration and
interdependence: students are invited to explore the tight connections be-
tween closely related phenomena. In a hypertextual logic, organizational
phenomena should be studied according to a major perspective (e.g., the
rational perspective), without excluding other perspectives from the analysis
(e.g., the emotional perspective). The different perspectives are approached
as interdependent processes in the sense that what matters is to approach phe-
nomena from one perspective while keeping another active. The way phe-
nomena are intertwined thus constitutes a major challenge for this approach.

To explore this approach, we find the work of Jerome Bruner (1986) par-
ticularly relevant. Bruner argued that there are two modes of cognitive func-
tioning: a logic-scientific mode and a narrative mode. The first mode pursues
general laws or rules that may help discover a scientific truth. The second is
focused on the specificities of human experience, being context dependent,
historically situated, and based on personal experience. Tsoukas and Hatch
(2001) transferred this model to the field of organization studies, showing
that both modes have been used by organizational scholars.
The contrast between the logic-scientific and narrative modes of thought echoes the art versus science debate. Guillén’s (1997) analysis of the aesthetics of Taylorism provides an illustration of these complementarities, showing that beneath the scientific approach there is an aesthetic possibility waiting to be uncovered. The organization can thus be read not as palimpsest but as hypertext (Nonaka & Ichijo, 1997). Taking organizations as palimpsests means that one views them as manuscripts from which the original writing must be erased before rewriting its surface. In the case of the hypertextual view, different layers coexist and can be accessed and recombined in several ways.

As an example, consider how valuable the complementary use of outside (rational, objective, distanced) and inside (personal, subjective) perspectives may be in instructional contexts. The two versions of Pascale and Christiansen’s (1983a, 1983b) analysis of Honda’s entry in the American market illustrate hypertextuality in the context of management education. Case discussions can switch from one version to the other in search of multiple truths. Alternatively, the truths may be combined with one another and with real-life stories to stretch theories, exposing both their usefulness and limitations. The gap between organization science and organization reality (Frost, Mitchell, & Nord, 1992) may thus be bridged through hypertextuality, or the practice of integrating interdependent perspectives.

**DIALECTICAL THINKING**

The dialectical approach operates through differentiation and interdependence. In a dialectical relationship, a thesis is at the origin of its antithesis and both are used to reach a synthesis. Students can be asked to differentiate thesis and antithesis, exposing the paradoxical nature of organizational phenomena. Considering the complicated interplay of opposites, students may then be guided through an exploration of paradox and stimulated to discover possible syntheses. Syntheses should not be understood as means for solving paradoxes, in the sense of removing an essential feature of contradiction, but as vehicles for infusing management knowledge with the idea of “permanent paradoxes” (Clegg, Cunha, & Cunha, 2002). By permanent paradoxes, we refer to the recognition that by exposing tension while retaining contradiction and assuming the permanence of paradox, scholars stimulate the search for complicated understandings of organizations.

The dialectical view takes organizational topics as phenomena where two opposing entities engage each other in conflict, generating a synthesis that incorporates and differs from both of them while retaining an inner paradoxical nature. This approach thus involves two contradictory entities: the
engagement of these entities in a conflict and the emergence of a different entity as a product of that conflict. According to Webster and Starbuck (1988), leadership theories afford an example of synthesis between a traditional model, based on the superiority of matching firm superiors/obedient subordinates, and the opposing views from Chester Barnard and the Hawthorne studies that assert the advantage of friendlier supervisors and more participative subordinates. The Ohio leadership studies (e.g., Fleishman & Harris, 1962) synthesized these antithetical views by pulling together different dimensions of the same concept.

Organizational dialectics refers not only to recombining knowledge but also to generating new knowledge on the basis of exploring the available knowledge from different perspectives. Diverse pedagogical approaches have been proposed for increasing complex-thinking skills on the basis of dialectics, including the use of conceptual polarities, personal contradictions, and paradoxical predicaments (Lewis & Dehler, 2000). The dialectical approach represents a provocative mode of knowledge generation in the sense that it goes beyond acknowledging the existence of opposites. For example, if there are two competing views on a certain phenomenon A (+A and –A), a dialectical approach will go one step further than, say, metaphorical thinking. It will not simply accept diversity as a given from which one should pick the best framework for interpretation, nor will it force the choice of a spot somewhere on the –A to +A continuum. It will lead, instead, to the creation of a new theoretical entity, combining knowledge from the two previous instances (±A).

The potential of dialectical thinking to organizational analysis and management learning has received growing interest in recent years. Evidence on its usefulness arrived from such diverse topical areas as organizational change (Van de Ven & Poole, 1995), strategic management (Schweiger, Sandberg, & Ragan, 1986), and theory building (Lewis, 2000; Lewis & Grimes, 2000). Other sources that can be used to guide students through the dialectical route to complication include those indicated below. Kamoche and Cunha (2001) discussed how freedom and control can be synthesized in minimal structures. Edelman and Benning (1999) pointed out the possibility of incremental-punctuated organizational change. Yates and Orlikowski (1999) illustrated how organizational communication can be at once formal and informal. Brews and Hunt (1999) contended that strategy can be simultaneously emergent and deliberate. Eisenhardt and Sull (2001) discussed how simple rules may be adequate for complex environments. These authors strived, implicitly or explicitly, to demonstrate the pervasiveness of paradox in organizational life and the potential of dialectics to provide insights for tackling paradoxes.
In the educational context, dialectical thinking may be useful in helping students break the dichotomous either/or view of organizations. By inviting the search for synthetic views, the dialectical perspective stimulates “out of the box” thinking and provides a path for revealing organizational tensions and dilemmas.

**LINKAGES**

In the linkages approach, subjects are asked to integrate objects that are often taken as independent. *Linkages* refer to the connections between activities and outcomes across units and/or levels (Goodman, 2000). We all know, of course, that levels are related. But because of analytical clarity and disciplinary boundaries, most researchers actually treat them as independent. As a result, some authors called for the need to develop meso-level theories (House, Rousseau, & Thomas, 1995), whereas others noted the schizophrenic nature of organization studies (O’Reilly, 1991) because of the great (macro-micro) divide. Each level can be analyzed without reference to other levels, meaning that they can be conceptually separated. This separation does not, however, eliminate the multiple influences between levels. For example, job satisfaction tends to be studied as an individual-level variable. Nonetheless, there is a potential cross-level continuity. At the aggregate level, job satisfaction will influence organizational climate. As such, levels can be separated for analytical purposes, but they influence each other on an ongoing basis.

The study of organizational linkages is relevant for understanding the complexity of organizations. It rests on the level of analysis perspective that is recurrent in organization studies. However, it goes one step further: Here, the complex web of cross-level relationships is not left unquestioned, as it frequently is in the level of analysis perspective.

In fact, despite the common use of levels of analysis as conceptual frameworks, interactions between levels have been left relatively unexplored. Despite the efforts of authors such as Rousseau (1985) and Roberts, Hulin, and Rousseau (1978), the implicit assumption of most research is that there is cross-level continuity. As such, improvements at one level will lead to improvements at the other levels. Many examples show that this is not necessarily the case. Evidence from the so-called productivity paradox shows that changes at one level may not be easily transferred to other levels, exposing the dangers of the continuity assumption. The productivity paradox basically argues that large investments in information technology may not result in significant productivity improvements at the organizational or industry level (Attewell, 1994). Methodologically, Chan (1998) discussed how the specifi-
cation of constructs in the same content domain at different levels of analysis guides the way phenomena are perceived. His illustration of composition models with the concept of organizational climate shows a shifting concept, the contours of which depend on how the cross-level analysis of climate is defined and conducted.

The linkages perspective may be valuable for instructional purposes because it provides evidence that concepts do not just become bigger when a macro view is adopted. Rather, they change qualitatively and their effects may be metamorphosed, neutralized, or amplified. As such, the focus on linkages may challenge the “peaceful” micro-macro journey so often portrayed in the literature.

METAPHORS

Metaphors complicate organizational thought through polarization. Independent objects are differentiated by subjects. While creating one particular truth, each metaphor excludes other truths (Morgan, 1997). It therefore introduces an element of discontinuity between truths, making them conceptually separated. Metaphors tend to be used in sequence, with one metaphor dominating at a certain moment. This is particularly evident in the case of emerging research topics. Organizational improvisation research, for example, is dominated by the jazz metaphor (Kamoche, Cunha, & Cunha, 2002). Probably, more research will bring metaphorical diversity.

Complication through metaphor assumes that it is insufficient to regard organizations as phenomena reducible to a single view. On the contrary, organizations must be taken as complex realities that are better seen through multiple lenses. The metaphorical approach to complication consists of adding different views to the analysis.

Metaphor may be described as “a way of thinking and a way of seeing that pervade how we understand our world generally” (Morgan, 1997, p. 4). This “way of seeing/thinking” allows for the drafting of the characteristics of a particular phenomenon by means of another phenomenon. To explore the potential of a metaphor, the metaphorical object must be perceived as similar to the original object of study. Second, it must be a topic with which we are more knowledgeable than the original. Weick (1999) emphasized this point while asserting “If you want to study organizations, study something else” (p. 541). Thus, a metaphor is useful because it allows the study of a phenomenon that is understood by means of another, for which a deeper knowledge exists.

When we realize that organizations can only be grasped by recognizing their multifaceted nature, we become aware of the limitations of using a sin-
gle metaphor to develop organizational interpretations. The metaphorical approach is relevant because—acknowledging that every metaphor distorts the object under investigation—it invites students to approach the object from multiple angles. Each metaphor exposes the advantages and limitations of competing metaphors, signaling the risks of simplified representations of organizations.

Moving from one metaphor to another requires a new set of assumptions independent from one another. This may be stimulating in the educational context, as it invites students to engage in a personal exploration of the different faces of organizations. “Diversity games” (e.g., Beazley & Lobuts, 1998) provide an example of how to put the metaphorical approach into practice, leading students in their explorations of the multiple images of organization.

Concluding Remarks

In this article, we have proposed four ways to develop complicated understandings in management education. The argument is not original. It integrates the previous research conducted by scholars such as Weick (1979), Bartunek et al. (1983), Lewis and Dehler (2000), and Dennehy, Sims, and Collins (1998), among others. We believe our article makes a contribution to the management literature by contrasting possible routes to complication.

With this article, we aim to help make complication less exceptional in the context of management education (Lewis & Dehler, 2000). Thus far, the exceptional character of complicated approaches may be a consequence of myriad causes ranging from culture to educational practice. Culturally, the mind-sets of Westerners seem to be structured in terms of oppositions, which makes it difficult, for example, to engage them in dialectical synthesis (Peng & Nisbett, 1999). Regarding educational practice, the increasing mechanization of the teaching process should be considered as a possible cause of standardized educational contents (Lundberg, 1994).

We discussed four approaches as possibilities for helping managers and management students to raise complicated understandings: hypertext, dialectical thinking, linkages, and metaphors. These approaches correspond to analytical categories that can be put into operation through the use of colliding case studies (Pascale & Christiansen, 1983a, 1983b), contrasting frameworks for analyzing the same case (Mair, 1999), multiple teaching approaches (Bartunek et al., 1983), diverse teaching materials such as novels and films (Champoux, 1999; Czarniawska-Joerges & Monthoux, 1994), devil’s advocacy (Cosier & Aplin, 1980), and dialectical inquiry (Mitroff & Mason, 1981). The pervasiveness of simplification-driven cognitive pro-
cesses, such as stereotyping and categorization (e.g., undervaluing situational variables, attributing poor performance to dispositional characteristics, and so forth; Mitchell & Wood, 1980; Ross, 1977), makes the claim for complication more pertinent in a time of great environmental change. The approaches outlined here should not be viewed as mutually exclusive. For example, contrasting a case on the basis of objective/subjective views is characterized as a hypertextual approach. However, such an approach may also be used to elicit paradox and contradiction (Dehler & Welsh, 1993), which would make it closer to the quadrant of dialectical thinking. Combinations may thus be explored.

In this discussion, we started from the assumption that there is a gap between practical activity and management learning. Practical activity is understood by different people in different ways and is not available as an objective given (Boje, 1995; Packer, 1985). The gap resides in the observation that diversity should be as normal in management education as it is in the real world. We believe it is not. Our position, thus, is that instead of simple and easy-to-use truths, different and sometimes divergent interpretations could be offered. These could constitute a means for developing more complex people to match simpler structures. This would reverse the functionalist-bureaucratic logic, where simple people are prepared to work within the context of complex structures. This shift, we believe, may be one of the major challenges for management educators in the years ahead.

References


Weick, K. E. (1999). The aesthetic of imperfection in orchestras and organizations. In M. P. Cunha & C. A. Marques (Eds.), Readings in organization science (pp. 541-563). Lisbon: ISPA.

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