

International Journal of Cross Cultural Management

<http://ccm.sagepub.com/>

Managing Improvisation in Cross Cultural Virtual Teams

Miguel Pina E Cunha and Joao Vieira Da Cunha
International Journal of Cross Cultural Management 2001 1: 187
DOI: 10.1177/147059580112004

The online version of this article can be found at:
<http://ccm.sagepub.com/content/1/2/187>

Published by:



<http://www.sagepublications.com>

Additional services and information for *International Journal of Cross Cultural Management* can be found at:

Email Alerts: <http://ccm.sagepub.com/cgi/alerts>

Subscriptions: <http://ccm.sagepub.com/subscriptions>

Reprints: <http://www.sagepub.com/journalsReprints.nav>

Permissions: <http://www.sagepub.com/journalsPermissions.nav>

Citations: <http://ccm.sagepub.com/content/1/2/187.refs.html>

Managing Improvisation in Cross Cultural Virtual Teams

**Miguel Pina e Cunha and
João Vieira da Cunha**

Universidade Nova de Lisboa, Portugal and MIT Sloan School of Management, USA

ABSTRACT Drawing on grounded theory research, we present a grounded model of improvisation in cross cultural contexts, the major contribution of which lies in advancing the concept of the dialectical team, where a minimal structure and a compatible perception of reality foster improvisational action, with diverse members responding to a turbulent environment using simple resources. This arrangement creates the conditions that allow a team to improvise successfully, while remaining both efficient and effective. The model strengthens the argument for a dialectical perspective of organizations, unearths the presence of curvilinear relationships in cross cultural phenomena where linear ones were thought to prevail, and provides alternative answers to some of the problems found in cross cultural research.

KEY WORDS • flexibility • improvisation • paradox • teams • virtual work

The popular management literature has been touting the use of cross cultural teams to enhance corporate effectiveness. Authors espousing this approach argue that the growing complexity of most corporate environments (a result, for example, of serving international customers having different cultures and tastes) must be met by internal diversity, asserting that this type of team appears to fit the task especially well (e.g. Peters, 1992; Lipnack and Stamps, 1993). This view is particularly concerned with effectiveness.

Teams staffed with very diverse members are able to achieve the level of 'complication' (Weick, 1979; Bartunek et al., 1983) necessary to deal with a shifting and bewildering environment, and are thus more competent to meet the challenges that are constantly confronting them (Conant and Ashby, 1970).

Another group of authors argues that the promise of increased effectiveness resulting from the use of multinational teams is an empty one. National cultures are quickly melting into a global set of values and beliefs

(Wolf, 1994). Moreover, findings such as the positive correlation between GNP and the level of individualism (Hofstede, 1991), on the one hand, and the positive relationship between increase in international mobility and a progressive loss of identification with one's own national origin (Omahe, 1999), on the other, provide anecdotal and empirical grounding for such claims. In fact, some authors (e.g. Wilkinson, 1995) go to the extent of arguing that the global pattern and frequency of communication among the various countries allows us to conclude that mankind is evolving into a single overall civilization. Some researchers have even argued that the convergence of national cultures will result in a world where corporate affiliation will be the major basis of value and belief differentiation (Laubacher et al., 1997), thus rendering intra-organizational cultural differences practically nonexistent, emptying the promise of effectiveness made by diversity. To this line of reasoning others have added that nominal team diversity (teams staffed with people boasting diverse demographic characteristics) pales in the face of the increase in effectiveness brought about by functional team diversity (teams staffed with people having diverse skills and formal knowledge) (Northcraft et al., 1995). In this light, it is arguable that cross cultural teams would bring no increase in effectiveness whatsoever, and could even perform more poorly than mono-cultural teams in this respect, especially if the latter possessed a higher level of functional diversity than the former. In addition, several authors have shown that efficiency may be a much more important goal than effectiveness for organizations, even in highly uncertain processes such as new product development (NPD) (e.g. Ansoff et al., 1970; Cooper, 1979).

Research on organizational improvisation – which can be defined as the conception of action as it unfolds, drawing on available resources – has hinted that both approaches are simultaneously correct and

flawed. They are both flawed because they frame the problem of obtaining diversity and similarity and that of efficiency and effectiveness in an 'either/or' framework, whereas this research has shown that both pairs of opposites may be present simultaneously. Brown and Eisenhardt (1997) have shown that a goal-and-deadline structure can help organizations integrate efficiency and effectiveness, and Hutchins (1991) and Bastien and Hostager (1995) have shown that sharing some basic rules and beliefs may allow team members to reap the full potential of their differences, a point to which Allport (1962) and Weick (1979) had already contributed.

Considering this, our purpose is to build upon the literature on improvisation and upon that of cross cultural management to bring the major characteristics of improvisation in a multicultural context to the surface, formalizing those characteristics into testable hypotheses. Additionally, we are concerned with using this model to illustrate the dialectical nature of managing cross cultural teams, because it highlights the possibility of striking a synthesis between pairs of seemingly contradictory phenomena in organizations.

The setting for this research is a virtual multinational new product development team, working for a research and development consortium in the mold industry. This context is highly dialectical, i.e. prone to the co-emergence of apparently contradictory phenomena, not only because of the high probability of improvisational activity in NPD endeavors (Eisenhardt, 1989a; Eisenhardt and Tabrizi, 1995), but also because of the inherent contradictions that arise when this process crosses national boundaries (Nakata and Sivakumar, 1996). Moreover, improvisation is endemic to computer-mediated work (DeSanctis and Poole, 1994) and its likeliness is amplified by virtual work, a context where other dialectical phenomena, such as swift trust, tend to emerge (Meyerson et al., 1996; Yates and Orlikowski, 1999).

Grounded theory was the method of

choice for this research (Strauss and Corbin, 1990), because of the absence of cross cultural considerations in the literature on organizational improvisation that, together with the scarcity of insights into improvising teams, hinders the development of testable propositions on this topic. Grounded theory addresses these shortcomings by allowing a propositional model of the phenomenon of interest, relying more on theoretical degrees of freedom than on empirical ones (Campbell, 1975).

This research revealed a set of testable hypotheses that can contribute towards a model of improvisation in cross cultural contexts and, more broadly, draws attention to the possibility of achieving a synthesis between the poles of some of the paradoxes plaguing organization theory (e.g. Brews and Hunt, 1999; Miller, 1993; Poole and Van de Ven, 1989). We found that a team's ability to hold the dialectical tensions necessary for performing in uncertain cross cultural processes depends on performing improvisational actions, rooted in a minimal structure and in a compatible (instead of similar) view of itself and its environment. Each of these factors is affected by the nominal and functional diversity held by the team, by the perceived or constructed level of environmental turbulence and by the simplicity of the resources available to the team. The extent to which a team is able to integrate the tensions it faces, without giving in to compromise, ultimately affects its success in improvising in the face of unforeseen and unplanned-for circumstances.

Three major contributions to cross cultural organizational theory result from these findings. First, we advance a set of testable hypotheses that aim to contribute to the development of a model of improvisation in cross cultural settings, both integrating and expanding the present research on this phenomenon – confirming previous arguments and findings and presenting novel ones. Second, we provide an illustration of the

team processes and characteristics necessary for integrating some paradoxes that groups face in today's uncertain and global environments, highlighting the role that compatibility of perceptions and goals, and skill familiarity play in this respect, thus contributing to the issue of intra-team trust and to that of the relationship between skill and performance. Finally, we strengthen the case for a dialectical approach to management, where paradoxes are dealt with via integration, and not via compromise or choice, highlighting the finding of curvilinear relationships where linear correlations are often assumed to prevail.

To these aims, we open with the various methodological considerations that grounded this research, and follow with a presentation of the major findings that emerged from it. We close by weaving ties between these findings and broader themes in organizational inquiry, namely the management of improvisation, diversity and a dialectical approach to organizational phenomena, not without first presenting the major shortcomings and unfolding directions for practice and research on this topic. In a nutshell, this effort extends research on organizational improvisation to encompass cross cultural settings and expands research on multinational teams to encompass improvisational activities, illustrating the possibility of achieving a synthesis between the poles of some paradoxes in both contexts.

Method

Setting

The Round the Clock (RTC) project (real name), was our source of data. This was a multiple case study of the implementation of an administrative innovation aimed at articulating a set of technological and interaction standards that would allow a team whose members were located in three different time zones to achieve 24-hour new product development by taking advantage of

their location in time zones roughly eight hours apart. The project was a joint venture between five organizations: Iberomoldes, a Portuguese company acting in the international molding industry; Centimfe, a research and development consortium funded by the most prominent members of the Portuguese molding industry; Iberotec, Iberomoldes' Mexican subsidiary; GMI, a research consortium founded by some molding companies in the Chinese province of Guangdong; and DMG, a government supervisory body for the molding industry in that province. The final goal of this collaborative arrangement between these five entities was to reduce to a third the time a new product took to be developed. The criteria we used to choose this specific case were related to the aim of obtaining a high variability in the cultural composition of the team and to encompass a wide variation in the quantity and the quality of improvisations.

As far as the first condition goes, our criteria were assured by the low level of formalization of the team, by the low experience of interaction among members, and by explicit plans dictating differential participation in each of the planned stages of the project. Regarding the second condition, the project's reliance on advanced communication technologies, according to adaptive structuration theory (DeSanctis and Poole, 1994), was enough to ensure that the necessary conditions for improvisation (which emerged from a literature review we performed prior to collecting data and designing the research) were met. In fact, there were several tensions present during the course of RTC's unfolding, namely a pull to adaptation and a push to follow plans and a pull for flexibility and a push to formalize structure. The presence of conditions which demanded that plans were followed (e.g. limited resources, limited time to allocate to the project) and that of conditions calling for abandoning plans (e.g. unexpected technological problems and unforeseeable opportunities) hinted at the prob-

ability of both very low and very high levels of improvisational activity.

The actual data were collected during five months of frequent visits to the field, where we mostly observed the team carrying out the tasks the project demanded, sat in on meetings and held several interviews with team members, both face to face and via videoconferencing. In those visits, we also gathered extensive archival data including e-mails, memos, reports, photographs and industry publications.

Research Design

This research was performed using the grounded theory method as defined by Strauss and Corbin (1990). This effort as a whole spanned three distinct stages. In the first stage we attempted to increase our theoretical sensitivity to the phenomenon of interest. This was achieved by performing an extensive literature review, which allowed us to make an informed choice regarding our research design and case selection criteria. Additionally, this exercise prepared us to better formalize the model we sought as it emerged from the data, by increasing our understanding of the limitations and major issues of research on this topic. In the second stage, we collected the actual data and performed some cursory analysis of them. In fact, data collection and data analysis are mostly inseparable in grounded theory (Strauss and Corbin, 1990). This is due to the circular relationship between the data and the emerging model of the phenomenon of interest in which data are used to build and test the model, and this model in turn is used as a guide to data collection, pointing out those phenomena that may deserve further scrutiny. At the end of this stage, $N = 91$ concepts and $N = 14$ categories emerged from our data.

The third and final stage of our research comprised two distinct moments. In the first, axial coding (relating the categories via a predefined paradigm (Eisenhardt, 1989b)),

we narrowed our dataset to those improvisations that were unique, as suggested by Strauss and Corbin (1990), which is to say that we excluded those patterns that were mere repetitions of others. $N = 13$ different axes were coded using Strauss and Corbin's (1990) paradigm, which encompasses the following elements: causal conditions, phenomenon, context, action strategies, intervening conditions, and consequences. As this coding was performed, some relationships, concepts and categories were revised: the number of concepts in our model was reduced to 83 and the number of categories to nine. We then proceeded with selective coding, where a core category is chosen and related to all the others. Our core category was organizational improvisation, which we measured by the number of deliberate departures from preconceived courses of action based on previous experiences, routines or plans. Thus using this definition as a filter, we constrained our analysis to novel actions that were both purposeful and reflective, formalizing $N = 83$ instances of improvisation in our data. This option was dictated not only by the frequency with which this category appeared in our data (the highest among all the categories) but also because this was our core phenomenon of interest. The resulting model was validated against the data, leading to further adjustments: concepts came down to 64 and categories to seven.

As far as the justification of our choice of method goes, we opted for grounded theory as a research design because of three of its characteristics. First, as a qualitative research method, it allows the observation of the unfolding of social phenomena, instead of limiting observations to their output, thus avoiding the accusations of reductionism made against quantitative methods (Symon and Cassell, 1998). Second, grounded theory permits theoretical sampling and replication-based (instead of sampling-based) generalization because of its reliance on multiple

case studies (Eisenhardt, 1989b; Yin, 1984). Finally, this method is best suited to theory building vis-a-vis theory testing, an important property in a topic with as low a level of empirical development as that of improvisation in cross cultural contexts, where theoretical proposals have yet to be advanced (see Cunha et al., 1999).

Improvising Across Cultures

The analysis of our data revealed a series of elements relevant for building an improvisation-capable cross cultural team. In particular, it highlighted the concept of the dialectical team, which combines a minimal structure with compatible goals in order to transform improvisational potential into improvisational action – an arrangement that our data determined to be central to successful improvisational outcomes in highly diverse teams.

As indicated in Table 1, there were substantial differences in team composition, and in the quantity and the quality of improvisations among embedded cases. Some instances reflect prolific improvisational activity, which was later formalized (e.g. a product development project undergone at RTC, where team member diversity coordinated through compatible goals led to novel solutions to problems). Others are relatively sterile in this type of activity (e.g. some idle experimentation sessions carried out by RTC members from the same culture aimed at discovering an adequate videoconferencing platform, where improvisations were mostly negligible and none were formalized) and thus more vulnerable to unexpected problems and issues. In attempting to understand these differences, we found that instances of successful improvisation depended on the successful combination of 'minimal' social and task structures and compatible goals with high levels of diversity that built on the team's improvisation potential. These findings, however, represent only a partial

Table 1 Round the Clock features

	Improvisations			Type	Member diversity	Prescription of action/formalization	Environmental uncertainty	View similarity	Simplicity of use of available means
	<i>Strictu sensu</i>	<i>Others</i>	Successful						
<p>First videoconferencing</p> <p>Project partners agreed to interact simultaneously via videoconferencing in order to discuss the definition and formalization of technological and interaction standards. Several unforeseen technological limitations and problems forced the team to hold bilateral conversations instead of the multilateral discussions they planned for. In addition, an unexpected business opportunity demanded further adaptation and improvisation</p>	4	16	8	Mostly minor, some later formalized	<p>High</p> <p>High nominal diversity: Members from three different cultures</p> <p>High functional diversity: Administrative personnel</p> <p>Computer specialists</p> <p>NPD specialists</p> <p>Project leader</p>	<p>High</p> <p>Leader exerted direct supervision and instructed team members about the course of action</p>	<p>High</p> <p>Technology very prone to unexpected failure</p> <p>No prior experience of collaboration between partners</p>	<p>Incompatible views (different means and ends)</p> <p><i>Leader</i>: Process: interaction; End: promote trust among members</p> <p><i>Centimife</i>: Process: test the technologies; End: formalize a technological arrangement</p> <p><i>Ibermoldes</i>: Process: test technologies; End: uncover partners' limitations</p> <p><i>GMI</i>: Process: socialize with other members; End: build personal ties</p> <p><i>DMG</i>: Process: present an opportunity; End: initiate NPD project</p> <p><i>Iberolec</i>: Process: interaction; End: build trust</p>	<p>Low</p> <p>Means (internet, communication and network supervision software) require a high level of specialized knowledge which only a few team members possessed</p>
<p>Idle experimentation</p> <p>In face of the number of technological problems encountered during the first video-conference, and the difficulty in interacting with people from different cultures, team members from Ibermoldes and Centimife set out to define the set of technological standards RTC called for, on their own. They dropped the internet as a communication channel and relied on a direct connection between them, instead. This intention was abandoned in favor of a series of experiments performed in group and individually by the two members, from which no result emerged apart from some improvisations resulting from unexpected technological problems</p>	0	24	9	All minor, none formalized	<p>Low</p> <p>Low nominal diversity: Members from the same culture</p> <p>Low functional diversity: Computer specialists</p>	<p>High</p> <p>Standardization of norms/national and professional (culture)</p>	<p>Low</p> <p>Reliable technology and long history of cooperation among acting partners</p>	<p>Similar views (similar means and ends)</p> <p><i>Centimife</i>: Process: test the technologies; End: formalize a technological arrangement</p> <p><i>Ibermoldes</i>: Process: test technologies; End: formalize a technological arrangement</p>	<p>Locally high</p> <p>Means (computer mediated communication and network supervision software) require a high level of specialized knowledge which all participating team members possessed</p>

Live demo to the Portuguese Minister of Science

7	15	17	A few major, none formalized	<p>Moderate Low nominal diversity: Members from the same culture High functional diversity: Administrative personnel Computer specialists NPD specialists</p>	<p>Minimal Some standardization of norms and skills (shared professional culture) Some standardization of outputs lines and implicit goals)</p>	<p>Moderate Technology somewhat prone to failure Partially scripted interaction Explicit roles</p>	<p>Compatible views (similar means, different ends) <i>Leader</i>. Process: demonstrate project; End: obtain funds <i>Centimfe</i>. Process: demonstrate project; End: third party (Minister of Science) recognition <i>Iberomoldes</i>. Process: demonstrate project; End: competence display to peers</p>	<p>Locally high Means (computer-mediated communication and collaborative CAD software) require a high level of specialized knowledge which all participating team members possessed</p>
---	----	----	------------------------------	--	--	---	--	--

Joint product development Iberotec-Centimfe

8	0	8	All major, all formalized	<p>Moderate High nominal diversity: Members from two different cultures Low functional diversity: NPD specialists</p>	<p>Minimal Some standardization of process (explicit intermediate goals and deadlines, no prescription of action) Some standardization of norms (adaptation of a small set of rules from previous interactions)</p>	<p>Moderate Technology somewhat prone to failure Explicit roles</p>	<p>Compatible views (similar means, different ends) <i>Leader</i>. Process: develop actual product; End: build momentum <i>Centimfe</i>. Process: develop actual product; End: formalize working rules <i>Iberotec</i>. Process: develop actual product; End: comply with organizational goals</p>	<p>Low Interaction means (memos, simple CAD drawings, e-mail) require little specialized skill</p>
---	---	---	---------------------------	--	--	--	---	---

Final live performance

9	0	6	All major, none formalized	<p>Moderate High nominal diversity: Members from three different cultures Low functional diversity: Computer specialists</p>	<p>Minimal Some standardization of process (scripted interactions) Some standardization of norms (from previous collaborations)</p>	<p>Moderate Technology somewhat prone to failure Scripted interaction Explicit roles</p>	<p>Compatible views (similar means, different ends) <i>Leader</i>. Process: demonstrate project; End: obtain funds and visibility <i>Centimfe</i>. Process: demonstrate project; End: competence display to peers <i>Iberomoldes</i>. Process: demonstrate project; End: leader recognition <i>GMI</i>. Process: demonstrate project; End: renew commitment <i>DMG</i>. Process: demonstrate project; End: local organizational legitimacy <i>Iberotec</i>. Process: demonstrate project; End: enact leader's orders</p>	<p>Simple Low Interaction means (memos, off-the-shelf videoconferencing software, e-mail) require little specialized skill</p>
---	---	---	----------------------------	---	--	---	---	--

approach to the phenomenon of organizational improvisation in cross cultural teams. In fact, during our coding, we paid more attention to organizational and team factors than to individual ones. The story told by our model could be different if we focused on the characteristics of individuals. Our choice of focus comes from the realization that the heavy reliance on the jazz metaphor that currently plagues most research on organizational improvisation acts as a blind spot in relation to the organizational factors affecting this phenomenon (see Cunha et al., 1999). For a similar reason, we chose to pay more attention to the triggers and conditions for improvisation than to its outcomes. In fact, although looking at outcomes would allow us to push improvisation as a 'sound' managerial practice, we feel that at this point of its development in organization research, it is more useful to build a contingency view of this phenomenon to avoid its framing as an attempt to articulate a panacea.

Building a Cross Cultural Team

Our data provided three factors that affected the elements comprising a cross cultural team: member diversity, environmental turbulence and resource familiarity. As far as member diversity goes, at RTC, when the active team members had similar training/professional culture (low functional diversity) but came from different national cultures (high nominal diversity), a minimal structure (Hedberg et al., 1976) was present. This structure aimed at providing unobtrusive control so that the necessary coordination for autonomy to be materialized into visible results would ensue (Sewell, 1998). In those instances where both types of diversity were low, a high implicit structure coming from a shared professional and national culture would be present. Thus, to be congruent with earlier research on organizational improvisation, we use the term 'structure' to incorporate both its implicit and explicit dimensions, as suggested by Weick (1979: 89–118).

Traditionally, research on diversity has had a different view: the higher the diversity, the more structure is needed. None the less, structure is also present when diversity is low. In this vein, Perlmutter (1965), coined the term *social architecture* to represent the invisible (although not unobtrusive (Schein, 1985)) structure that shared values, beliefs and norms provided, arguing that the more such a structure was present, the lower would be the need for explicit coordination devices. This proposal was later echoed by Mintzberg (1995), who included standardization of norms (shared corporate culture) and standardization of skills (shared professional culture) in his six basic coordination mechanisms of organizations. However, a lower need for explicit coordination mechanisms is not equal to a lower need for coordination mechanisms. Instead, as others suggest (e.g. Brown and Duguid, 1991; Covaleski et al., 1998; Weick, 1979, 1993a, b) there appears to be a constant level of necessary coordination in organizations that can be achieved by either explicit or implicit coordination mechanisms. The issue of coordination for every individual organization is not as related to the amount of control, therefore, as it is to the nature of that control (Das, 1993). Thus both high and low diversity teams, groups or organizations possess a relatively similar quantity of integration mechanisms, although being of a very dissimilar quality. In this light, the regularities observed in our research appear to suggest that a moderate level of diversity minimizes the amount of structure, be it implicit or explicit. This echoes the findings obtained by Eisenhardt (1989a) which show that a minimal structure composed essentially of irrevocable and non-negotiable goals and deadlines is the fittest to coordinate teams or groups with nominal similarity and functional diversity or vice versa.

At RTC, during the joint Centimfe and Iberotec project (see Table 1), where nominal diversity was high (different nationalities) and

functional diversity was low (all members were engineers), the structure was minimal in the sense that it resulted from a small number of communication norms, a goal, and a set of deadlines. During what we termed the 'idle experimentation' stage, where overall diversity was low (all the participants were from the same city and all were trained at the same college), there was a high implicit structure that allowed members to anticipate each other's actions. This pattern in our data, together with the theoretical grounding above, allows us to suggest that:

Proposition 1: Membership diversity has a curvilinear relationship with the level of structure. Very low or very high levels of membership diversity lead to high levels of structure.

The effects of membership diversity are not limited to the team's structure. Our observations pointed out that in situations of high diversity, individual members' goals were often incompatible, and in those of low diversity not only goals but also attainment processes were easily agreed upon. When membership diversity was moderate there was a general agreement on goals that, more often than not, meant that members' perceptions were more compatible than similar. This pattern confirms previous arguments contending that, when sharing the same values, beliefs and norms (i.e. the same culture), people tend to notice similar factors and interpret them in the same way (Schneider, 1987). Knowing that the realities that organizations deal with are mostly second-order realities (Perrow, 1986; Smircich and Stubbart, 1985), i.e. socially constructed (Berger and Luckmann, 1991), it is evident that similar members tend to build similar realities to act upon. Thus low levels of membership diversity (nominal and functional similarity) often lead to similar views, whereas high levels of this element (nominal and functional dissimilarity) lead to incompatible and often opposite views. When membership diversity is moderate (nominal or functional simi-

larity), perceptions tend to be compatible but not coincident.

As far as our data are concerned, at the onset of RTC, 'managers' and 'technicians' at Centimfe (functional diversity and nominal similarity) disagreed on whether the managerial or technical issues should be tackled first. None the less, they agreed on the goal of the project as that of formalizing a working method for virtual new product development (compatibility). When preparing the demonstration for the Portuguese Minister of Science (see Table 1), the active team members, which were functionally and nominally similar, agreed on both the goal and the process of that particular event (similarity). Drawing on these observations, we posit that:

Proposition 2: The higher the member diversity, the lower the view similarity.

Membership diversity also had an impact on the team's amount of improvisational activity. As Table 1 shows, some type of diversity was present in all the instances where significant improvisations occurred. By a significant improvisation, we mean an improvisation in the strict sense, '[consisting] of radical alterations or new creations' (Weick, 1998: 545; see also Berliner, 1994: 70-7). Thus, for instance, the Centimfe-Mexico joint project was more improvisational in this regard than the first all-hands videoconference, because there were more substantial departures in the former than in the latter, although the opposite occurred concerning improvisations in the broader sense (where conception and action come together in the shape of minor or major deviations from a plan). When diversity was low there was either no improvisation at all or only very marginal manifestations of it.

This pattern seems to be at odds with most of the current theory on improvisation. Most authors writing on this topic argue that in order to improvise collectively, members have to share not only a set of values and

beliefs (Hatch, 1999), but also a similar (and high) level of skill (Crossan and Sorrenti, 1997) and the team should benefit from a high level of personal disclosure (Crossan et al., 1996; see also Senge, 1990). These conclusions, however, may be more related to the metaphor of choice of most of those studying organizational improvisation, than to actual organizational reality. In fact, improvisation in other settings, such as Indian music (Gosvami, 1957; Sharron, 1983), Gestalt therapy (Fornias, 1992; Southworth, 1983) and sports (Bjurwill, 1993), requires very little sharing. The little research available focusing on organizations shows that some diversity is needed (Eisenhardt and Brown, 1998; Johnson and Rice, 1984, 1987) and that personal disclosure is dangerous (Eisenberg, 1990). Indeed, this same conclusion arises when we see jazz bands as research objects instead of seeing them as metaphors. An experiment by Bastien and Hostager (1988, 1991) showed that improvisation can happen at very high levels of diversity. In fact, this experiment and other inquiries into improvisation in organizational settings have shown that most teams, when improvising, follow what Bastien and Hostager (1991) call a 'centering strategy' where diversity is kept at a necessary threshold for the requisite variety for improvisation to appear (Weick, 1979, 1999) but where it is low enough for improvisation to be effective.

An example from RTC brings this point home. During the first videoconference, improvisation varied in frequency and usefulness as team members dropped in and out of the conversation. The most useful improvisations occurred when two Centimfe members were talking with either their leader in Mexico or a single engineer in China (the rest of the Chinese group did not understand English and thus did not join in the conversation). When Centimfe members were alone or when they were talking with the other Chinese group, whose members were all participating in the discussion, little improvi-

sation was visible. This pattern in our data, together with what has been argued in the literature, allows us to contend that:

Proposition 3: Member diversity has a curvilinear relationship with improvisational activity (in the strict sense). Very low or very high levels of membership diversity lead to low levels of improvisational activity.

The level of perceived environmental turbulence also had an impact on the nature of the interactions among team members we observed. At RTC, highly turbulent environments led the team to plan and even script the actions its members were to take, in order to tackle the high level of ambiguity, as did low turbulence environments because of the efficiency gains available. When the environment was perceived as bearably turbulent, some working rules, norms and goals were set in order to tackle ambiguity and obtain some efficiency, but no more structure was added because of the feeling that it would hamper flexibility.

Popular management theory espouses a different approach. Most authors from this genre argue that in very complex environments there is little room for structure (e.g. Peters, 1992, 1994). Several authors have echoed this argument in their work on organizational improvisation (e.g. Crossan and Sorrenti, 1997; Crossan et al., 1996; Crossan, 1997, 1998). Crossan, for example has defined it as 'intuition guiding action in a spontaneous way' (Crossan and Sorrenti, 1997: 156), framing improvisation as the opposite of planning – as a strategy to be used in contexts where planning and structuring are not adequate. Conventional management theory, however, prescribes just the opposite. In turbulent environments, most contingency leadership theories argue in favor of a structuring leader or for a 'cultural leadership' (Bryman, 1996) thus re-emphasizing the point that, in these contexts, the debate focuses not on how much structure is needed (there is an apparent agreement on a considerable 'amount' of it) but on

what type of structure is required (the disagreement focuses on the visibility of that structure).

Empirical and anecdotal evidence from organizations in crisis situations (e.g. Hutchins, 1991; Pearson et al., 1997) has shown that, in fact, most of the settings that appear highly turbulent to an outsider are only moderately so for their actors, as their sensemaking processes are triggered. As Brown and Eisenhardt's (1997) research shows, when turbulence is thus held at a manageable level, a minimal structure emerges in order to preserve flexibility when coordinating action. This allows for integration between exploration and exploitation and therefore reduces the vulnerability of the organization to opportunity traps (Miner et al., 1997) that abound in these settings.

At RTC, both live events were planned and scripted until a reduction in perceived turbulence via sensemaking prompted the abandonment of such plans, which were replaced by working rules, goals and deadlines. This, together with the theoretical arguments presented above, leads us to argue that:

Proposition 4: The level of turbulence has a curvilinear relationship with the level of structure. Very low or very high levels of turbulence lead to a high level of structure.

Turbulence not only affects structure, but also the similarity of perceptions among team members. Our data show that very turbulent events lead to high levels of equivocality and ambiguity, whereas placid contexts witness a higher degree of agreement among individuals. This observation confirms the dominant view in the literature. High levels of turbulence sprout numerous unexpected occurrences and often never meet stimuli that challenge the group's or the organization's ability to have coincident sensemaking outcomes (Weick, 1995). This happens not only because of the level of novelty of these stimuli but also because, in turbulent

environments, the sheer amount of inputs makes it more difficult to agree about which ones should be chosen as relevant (Smircich and Stubbart, 1985; Emery and Trist, 1965). Furthermore, as Dougherty (1992) has contended, this process may be relatively unaffected by the level of membership diversity, because these stimuli are sometimes outside a culture's repertoire of habitual inputs.

One such instance occurred at RTC during the first all-hands videoconference. One of the Chinese partners of the project appeared unannounced in the meeting, stating that he had already secured a business opportunity for the team to tackle. The other members were not even expecting this partner to take part in the event, let alone present a business opportunity. Nevertheless, all members felt that a 'real' new product development project was just what they needed to attain RTC's ultimate goal. However, different interpretations of this occurrence (as a legitimate opportunity, as 'too much too soon' or as 'too good to be true') forfeited its further development, and it was ultimately lost. In this light we contend that:

Proposition 5: The higher the level of turbulence, the lower the view similarity among team members.

The final determinant of the interactions within a team is its simplicity of resources. One of the most visible patterns in our data was that, independently of the level of skill, simple resources enhanced the team's improvisational activity, by building its improvisational potential. In spite of the fact that current theory on improvisation argues that its practice is only available to highly skilled individuals, this conclusion may stem, again, more from scholars' preoccupation with extracting all the possible insights from jazz as a metaphor for organizational improvisation, than from the actual process of organizational improvisation. In fact, research on improvisation in Gestalt therapy shows that musical improvisation can be

achieved by very low skilled individuals using very simple instruments. In the organizational realm, Johnson and Rice (1987) and Orlikowski (1996) have shown that simple plans and simple coordination mechanisms help managers with limited administrative innovation skills to be successful in facilitating implementation of computer mediated work systems, benefiting their organizations in the process. A more careful reader might see this as the statement of an old proposition in new terms. It is obvious that the simpler the resources, the more skilled an individual will be in using them. However, our shift of focus from individual skill to resource simplicity is an attempt to reframe managers' responsibilities from obtaining highly skilled individuals (who can be expensive but can also be blamed) to developing simple systems (and returning to Deming's (1986) age-old call for a *mea culpa* from managers everywhere).

An event at RTC illustrates the point. During the first videoconference there was a break in the voice communication, which some of the members of the team did not notice and needed to be warned about. One of the members from Centimfe, at a loss with the complicated videoconferencing interface, wrote on a piece of paper 'NO SOUND. GO TO CHAT WINDOW'. His message was immediately understood by the other members and appropriate action was taken. This improvised form of communication was afterwards formalized as a 'standard' solution to several communication issues. In this light, we state that:

Proposition 6: The simpler the resource the higher the level of improvisational action (in the strict sense).

Elements of Successful Improvisation in a Cross Cultural Team

Three elements of a cross cultural team proved decisive to the success of its improvi-

sations: a minimal structure, a compatibility among members' views and the presence of improvisational activity.

As far as the presence of structure goes, our data pointed out that very high or very low levels of structure tended to hinder successful improvisation (see Table 1). Some authors on organizational improvisation have a position that differs from the pattern we detected here (e.g. Kao, 1997; Perry, 1991; Ellis, 1982). To these authors, improvisation is at odds with structure and embodies the high decentralization and autonomy that guide popular management theory. Hatch (1997) has eloquently amended this perspective by transforming Crossan and Sorrenti's (1997) definition of improvisation as 'intuition guiding action in a spontaneous way' (Crossan and Sorrenti, 1997: 156) into 'intuition guiding action *upon something* in a spontaneous *but historically contextualized* way' (Hatch, 1997: 181, emphasis in the original). This amendment highlights one of the most important characteristics of improvisation: its reliance on bricolage. As Weick (1993a) contends, bricolage, i.e. addressing challenges with the *available* resources, is closely linked to improvisation, as the latter always implies re-combining pre-composed material in a novel way (Berliner, 1994; Scribner, 1986). Thus, as jazz musicians need scores to improvise, managers need plans to do the same (Barrett, 1998). These plans are different from those that most organizations produce in the sense that they only prescribe the minimum necessary to ensure coordination and the attainment of organization-wide goals (Eisenhardt and Tabrizi, 1995; Eisenhardt, 1997). In fact, Bastien and Hostager (1988) show that when neither such plans nor any structure are present, groups and teams do not initiate improvisation, but build it tacitly instead. The stage we label 'idle experimentation' in our observations (see Table 1) shows that, in the absence of a minimal structure, teams do not improvise often and, when they do, the activity bears few results. By opposition, the final

live demonstration (see Table 1) shows that a little structure can go a long way as far as producing successful improvisations is concerned. This allows us to argue that:

Proposition 7: The level of structure has a curvilinear relationship with the success of improvisations. Very low or very high levels of structure lead to a low level of improvisation success.

Another factor affecting the success of improvisations was the level of similarity among members' views. At RTC, when views were very similar, no improvisation seemed to transpire, but the same occurred when these views were so different that they were outright incompatible. Only when agreement on goals and deadlines was coupled with disagreements on process, was improvisation present and successful. These findings confirm what some authors on organizational improvisation had already deduced theoretically and suggested empirically. Eisenhardt and Brown (1998) have shown that elevating timing, deadlines and rhythm above both people and tasks, fosters flexibility and successful improvisation. Additionally, research on computer mediated work implementation (Orlikowski and Hofman, 1997; Johnson and Rice, 1987) highlights the role that improvisation has in successful projects of this kind, concurrently with the relevance that clear and irrevocable goals have to the success of those improvisations. Moreover, several authors, including Southworth (1983) and Orr (1990) have documented the negative effects that personal disclosure – another form of perpetuating a feeling of similarity and agreement – can have on the occurrence and success of improvisations. Finally, Weick (1993b) alerts us to the need for a set of rules that is to be kept very limited in size, otherwise risking loss of usefulness as a source of flexibility, and underscores the role that such a set of norms may play in successfully accomplishing improvisation.

There are several events in our observations that aptly illustrate this reasoning. The two Centimfe–Iberotec projects (see Table 1)

had agreement on norms and goals but ambiguity regarding process. This provided the setting for adapting the process to emergent opportunities and problems and to adapt and create new norms as these challenges were handled. In this light, we propose that:

Proposition 8: The level of view similarity among members has a curvilinear relationship with the success of improvisations. Very low or very high levels of such similarity lead to a low level of improvisation success.

A final and, one could say, obvious factor affecting the success of improvisations, is the amount of improvisational action. It is important to recall that the improvisations considered here are improvisations in the strict sense, i.e. improvisations that result from radical variations or new creations (Weick, 1998). In our data, the events that benefited from a higher number of such improvisations were also those that witnessed a higher number of formalized ones. A first argument supporting this view is an evolutionary one. The larger the number of variations of significant improvisations available, the more likely it is that one of these variations fits the situation at hand, and is selected and retained for future use (Hannan and Freeman, 1989). A second argument is related to the fact that improvisation is a tacit skill, i.e. one that can only be learned through practice. The more one practices the more likely it is that one will produce successful improvisations. A final argument, related to the linkage between improvisation success and amount of structure presented above, is grounded on the importance of executing a centering strategy in order to build part of the minimal structure that fosters productive improvisations. This structure is not the result of an implementation, but that of a growth process. This is to say that the structure is developed by and among members as they interact and improvise together and thus improvisation in the strict sense is only possible through repeated

improvisational action, because it is this very action that creates the structure that successful improvisations rely upon (Ciborra, 1996). Both of these arguments may also explain the higher incidence of more considerable departures from routine in the late interactions of the team (see Table 1).

At RTC, as Table 1 shows, the contexts where improvisation occurred were more and more complex; however, the level of successful improvisations was more or less constant, hinting that each interaction allowed for a minimal social and task structure to be built between team members, allowing them to continuously depart successfully from norms and prescribed action. This leads us to state that:

Proposition 9: The higher the level of improvisational action, the higher the level of improvisation success.

Discussion

Taken together, these nine propositions can be arranged into a model of improvisation in cross cultural teams (see Figure 1). This model addresses three important issues in cross cultural management.

First, it answers Hofstede's (1993) call for the development of a grounded theory of cross cultural management. This model is derived from a continuous observation of a cross cultural team working in a series of different contexts and arrangements, and results in nine testable propositions with the potential to advance research on managing across borders and cultures by bringing this research into a dialectical perspective, i.e. into a perspective that seeks to find a synthesis, instead of a compromise, between the two poles of a paradox. Improvisation, as a synthesis between planning and action (Moorman and Miner, 1998a, b), was our vehicle of choice to transport cross cultural studies into this space.

Second, it contributes to the understanding of the extent to which 'virtual' relation-

ships between different cultures are different from 'real-world' ones. The inherent dualism or dialectics of virtual settings enhances the visibility of dialectical social phenomena, where opposites are integrated into syntheses – such as the concept of a dialectical team. This concept, emerging from our data, integrates structure with autonomy (minimal structure), agreement with disagreement (compatible views) and planning with action (improvisation). These three elements are also potential contributors to the inquiry into swift trust (Jarvenpaa and Shaw, 1998; Jarvenpaa and Leidner, 1999) because they offer a possibility of integrating high levels of both membership diversity and team alignment.

Finally, this research is built with the three criticisms that Hermans and Kempen (1998) articulated against most cross cultural research. It studies cross cultural interaction in contact zones. Cyberspace does not belong to any region, country or culture and has been touted as serving as a 'technoscape' – a neutral arena for multicultural interaction (Appadurai, 1990). Moreover, by focusing on improvisation, it addresses tasks and contexts that have a considerable level of uncertainty (Machin and Carrithers, 1996; Mirvis, 1998). Lastly, by looking at minimal coordination mechanisms and at compatibility of perceptions, it implicitly addresses the role of the team identity as a supranational entity.

More broadly, apart from contributing to the advancement of cross cultural studies, this research strengthens the argument favoring a dialectical approach to organizational phenomena. In fact, conventional wisdom in management overemphasizes 'either/or' approaches such as the contingency framework, because of the 'western civilization' tendency for polarization when facing opposites (Peng and Nisbett, 1999). Some contingencies may call for integration instead of choice (Benson, 1973, 1977). Indeed, our data show that opposites can co-exist and even feed upon each other. Plans can foster

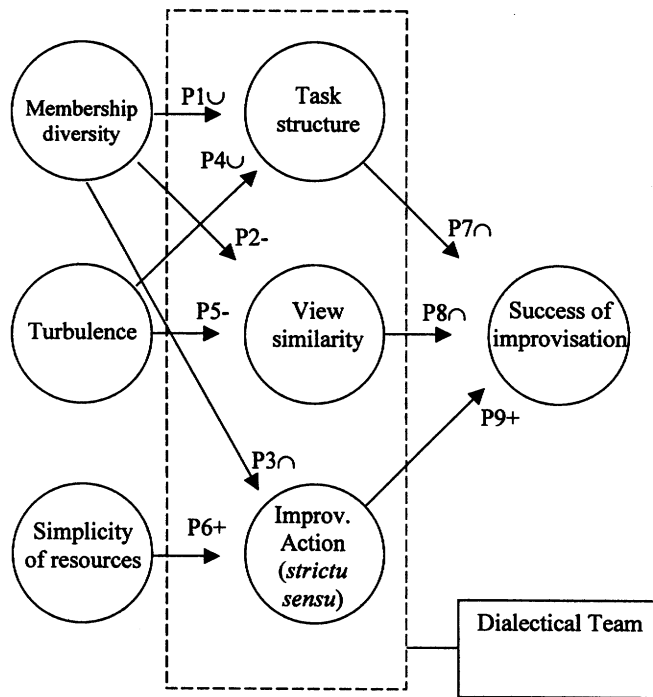


Figure 1 A grounded model of leadership in a context of organizational improvisation

action (improvisation), structure can boost autonomy (minimal structure) and similarity can foster diversity (compatible views). This does not happen because of some oddity in our chosen cases for analysis, but because of the dialectical nature of organizations and organizing (Nielsen, 1990; Mason, 1969, 1996; Mitroff and Emshoff, 1979; Weick, 1979). Mintzberg (Mintzberg and McHugh, 1985; Mintzberg and Waters, 1982) has shown that realized organizational strategies are the result of a synthesis between emergent and deliberate action. Both Katzenbach and Smith (1992) and Stacey (1991, 1996) have argued that the formal structure of organizations depends on the existence of the informal one, and vice versa. The saliency of these syntheses in our research is only due to the highlighting property of communication technologies, as far as dialectical phenomena are concerned. The co-presence of some-

times opposite values and beliefs in the same team, because of the diversity of its members, further strengthens the case stating that dialectics is a robust way to describe and understand organizational realities when such considerable contradictions are at play.

Another broad contribution of this effort is to introduce curvilinear relationships where only linear ones were available. Led in part by the cognitive difficulty which curvilinear relationships represent (Weick, 1979), conventional management theory tends to construct or perceive linear relationships between variables. This research has surfaced two curvilinear relationships that are conventionally ascribed as linear. The first is between diversity and structure. Structure is not circumscribed to explicit rules, norms and roles. Implicit structures deriving from sharing values, beliefs, implicit norms and language are often stronger than their ex-

PLICIT counterpart (Argyris and Schön, 1992). Thus the apparent lack of structure in highly homogeneous groups is only limited to explicit structure – the implicit one is still there with as powerful an integration strength as its explicit counterpart (Barley and Kunda, 1992). The second relationship is between turbulence and planning. RTC's team members planned with the same passion in both highly turbulent and highly placid contexts. They only improvised when sensemaking reduced equivocality to a manageable level and elements laid out in plans could be recombined for greater flexibility. None the less, the nature of these relationships does not weaken current theory but strengthens it. The curvilinear relationship between diversity and structure has already been proposed by Eisenberg (1990) and Weick (1979, 1995), and that between turbulence and planning by Orlikowski (1996) and Perry (1991). In the end this calls for an empirically grounded look at the nature of these relationships in order to find the circumstances that shift them from linear to curvilinear.

In spite of these contributions, this research has at least three shortcomings that point up the need to subject its findings to further empirical scrutiny. The first of these is the relatively modest number of cultures observed. Team members came from Mexico, China and Portugal. In all of these countries, national members were from the same geographical region and most of them had the same formal training as engineers. A second limitation is that, because of the observational nature of data collection, some variables and relationships may have gone unnoticed. Specifically, Cunha et al.'s (1999) review of the literature on organizational improvisation turned up a much wider span of variables and relationships underlying this phenomenon than this research has discerned. Some of these were deliberately excluded from our model because they have already been tested empirically. The relationship between turbulence and improvisa-

tion action is a case in point. Although evident in our data (see Table 1), it was not explicitly formulated as a proposition because it has already been empirically demonstrated (Moorman and Miner, 1998b). Additionally, the dialectical nature of several relationships present in our model may be tied to the 'naïve dialecticism' characteristic of oriental cultures, such as the Chinese (Peng and Nisbett, 1999). Although, as the Centimfe-Iberotec project shows, the team seemed able to improvise even in the absence of the Chinese partners. Finally, our findings may be affected by the virtual setting in which most interactions occurred. Ambrosini et al.'s (2000) research, however, shows that this may not be such a relevant concern.

As far as directions for further research go, our first suggestion would be to perform a quantitative empirical test of the model, eventually fleshing it out with further delving into the improvisation, virtual teams and cross cultural management literature. This would allow us to see if our propositions stand the test of replacing theoretical degrees of freedom with empirical ones, and evaluating the relative strength of each of the relationships that emerge from it. Moreover, our focus, on the one hand, on the structural aspects of improvisation (*vis-a-vis* the individual ones) and, on the other, on its antecedents (*vis-a-vis* its outcomes) also calls for further research grounded in a different focus. Finally, we join others (e.g. Benson, 1973, 1977; Poole and Van de Ven, 1989) in calling for a dialectical approach to managerial and organizational phenomena, as a complement, not a competitor, to other views. As far as directions for practice go, our model highlights the possibility and the benefits of integrating apparently opposite practices such as planning and acting (improvisation), controlling and delegating (minimal structure) and differentiation and integration (compatibility). It also suggests a complementary approach to skill management, via the resource simplification, and shows how

organizations can take advantage of cross cultural differences when managing their new product development processes by integrating opposite cultural views – by building dialectical teams.

Conclusion

It is striking to notice how management theory often follows management practice. As companies 'go international' only after they are established in their home countries, emerging theories in organizational inquiry are only viewed from a cross cultural perspective when their 'culture-free' version is already soundly developed. This research breaks this unspoken rule by looking at the cross cultural dimension of organizational improvisation, a phenomenon that has still to be subjected to widespread empirical investigation. Improvising virtual multinational teams served as the background for this research, from which nine propositions emerged, linking the team's diversity, the perceived turbulence and the simplicity of available resources to the enactment of an arrangement we labeled a dialectical team. This type of team was found to combine a minimal structure and compatible world-views with improvisational action in order to improvise successfully, ensuring that its action coupled effectiveness with efficiency, aiming at long-term profitability.

As a whole, these propositions constitute a model of improvisation in cross cultural settings that can now be tested for empirical relevance. Furthermore, this research joins the calling for a dialectical approach to managerial phenomena and, in the same vein, attempts to unearth curvilinear relationships where linear ones were thought to prevail. Moreover, it shows how a shift from highly skilled individuals to simple resources may contribute to the issue of team performance under differential competence levels; how a dialectical understanding of teams can contribute to pressing issues in international

new product development; and how view compatibility is at least as desirable as view similarity in trust-based forms such as virtual teams. As far as practice is concerned, these results suggest that when plans, structure and diversity are made minimal, they may actually increase their impact on performance, and that simple instruments may go a long way in addressing differences in skill. They also draw attention to the need to retain some ambiguity in a team if it is to function effectively. In the end, this research attempts to contribute to the mapping of the intersection between improvisation and cross cultural management, with the hope that it increases the relevance of their theory and success in their practice.

References

- Allport, F.H. (1962) 'A Structural-Conceptual Conception of Behavior: Individual and Collective', *Journal of Abnormal and Social Psychology* 64: 3–30.
- Ambrosini, M., Bernardi, F. and Benini, S. (2000) 'New Jobs and Old Mentality: Working in Virtual Groups and Face to Face Groups', in M. Vartiainen, F. Avallone and N. Anderson (eds) *Innovative Theories, Tools, and Practices in Work and Organizational Psychology*, pp. 205–16. Gottingen, Germany: Hogrefe & Huber.
- Ansoff, H.I., Avner, J., Brandenburg, R.G., Portner, F.E. and Radosevich, R. (1970) 'Does Planning Pay Off? The Effects of Planning on Success of Acquisitions in American Firms', *Long Range Planning* 3(2): 2–7.
- Appadurai, A. (1990) 'Disjuncture and Difference in the Global Cultural Economy', in M. Featherstone (ed.) *Global Culture: Nationalism, Globalization and Modernity*, pp. 295–310. London: Sage.
- Argyris, C. and Schön, D.A. (1992) *Theory in Practice: Increasing Professional Effectiveness*. San Francisco: Jossey-Bass.
- Barley, S.R. and Kunda, G. (1992) 'Design and Devotion: Surges of Rational and Normative Ideology in Managerial Discourse', *Administrative Science Quarterly* 37: 363–99.
- Barrett, F.J. (1998) 'Coda: Creativity and Improvisation in Organizations: Implications

- for Organizational Learning', *Organization Science* 9(5): 605–22.
- Bartunek, J.M., Gordon J.R. and Wheathersby, R.P. (1983) 'Developing "Complicated" Understanding in Administrators', *Academy of Management Review* 8(2): 273–84.
- Bastien, D.T. and Hostager, T.J. (1988) 'Jazz as a Process of Organizational Innovation', *Communication Research* 15(5): 582–602.
- Bastien, D.T. and Hostager, T.J. (1991) 'Jazz as Social Structure, Process and Outcome', in R.T. Buckner and S. Weiland (eds) *Jazz in Mind: Essays on the History and Meanings of Jazz*, pp. 148–65. Detroit: Wayne State University Press.
- Bastien, D.T. and Hostager, T.J. (1995) 'On Cooperation: A Replication of an Experiment in Jazz Cooperation', *Comportamento Organizacional e Gestão* 2(1): 33–46.
- Benson, J.K. (1973) 'The Analysis of the Professional–Bureaucrat Conflict: Functional versus Dialectical Approaches. *The Sociological Quarterly* : 376–94.
- Benson, J.K. (1977) 'Organizations: A Dialectical View. *Administrative Science Quarterly* 22: 1–21.
- Berger, P. and Luckmann, T. (1991) *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*. London: Penguin Books.
- Berliner, P.F. (1994) *Thinking in Jazz: The Infinite Art of Improvisation*. Chicago: University of Chicago Press.
- Bjurwill, C. (1993) 'Read and React: The Football Formula', *Perceptual and Motor Skills* 76: 1383–6.
- Brews, P.J. and Hunt, M.R. (1999) 'Learning to Plan and Planning to Learn: Resolving the Planning School/Learning School Debate', *Strategic Management Journal* 20: 889–913.
- Brown, J.S. and Duguid, P. (1991) 'Organizational Learning and Communities-of-practice: Toward a Unified View of Working, Learning and Innovation', *Organization Science* 2(1): 40–57.
- Brown, S.L. and Eisenhardt, K.M. (1997) 'The Art of Continuous Change: Linking Complexity Theory and Time-paced Evolution in Relentlessly Shifting Organizations', *Administrative Science Quarterly* 42: 1–34.
- Bryman, A. (1996) 'Leadership in Organizations', in S.R. Clegg, C. Hardy and W.R. Nord (eds) *Handbook of Organization Studies*, pp. 276–92. Thousand Oaks, CA: Sage.
- Campbell, D.T. (1975) "'Degrees of Freedom" and the Case Study', *Comparative Political Studies* 8(2): 178–93.
- Ciborra, C.U. (1996) 'The Platform Organization: Recombining Strategies, Structures and Surprises', *Organization Science* 7(2): 103–18.
- Conant, R.C. and Ashby, R.W. (1970) 'Every Good Regulator of a System Must be a Model of that System', *International Journal of Systems Science* 1(2): 89–97.
- Cooper, R.G. (1979) 'The Dimensions of Industrial New Product Success and Failure', *Journal of Marketing* 43(3): 93–103.
- Covaleski, M.A., Dirsmith, M.W., Heian, J.B. and Samuel, S. (1998) 'The Calculated and the Avowed: Techniques of Discipline and Struggles over Identity in Big Six Public Accounting Firms', *Administrative Science Quarterly* 43: 293–327.
- Crossan, M.M. (1997) 'Improvise to Innovate', *Ivey Business Quarterly* 62(1): 37–42.
- Crossan, M.M. (1998) 'Improvisation in Action', *Organization Science* 9(5): 593–9.
- Crossan, M.M. and Sorrenti, M. (1997) 'Making Sense of Improvisation', *Advances in Strategic Management* 14: 155–80.
- Crossan, M.M., White, R.E., Lane, H. and Klus, L. (1996) 'The Improvising Organization: Where Planning Meets Opportunity', *Organizational Dynamics* 24(4): 20–35.
- Cunha, M.P., Cunha, J.V. and Kamoche, K. (1999) 'Organizational Improvisation: What, When, How and Why', *International Journal of Management Reviews* 1(3): 299–341.
- Das, T.K. (1993) 'A Multiple Paradigm Approach to Organizational Control', *International Journal of Organizational Analysis* 1(4): 385–403.
- Deming, W.E. (1986) *Out of the Crisis*. Cambridge, MA: MIT Press.
- DeSanctis, G. and Poole, M.S. (1994) 'Capturing the Complexity in Advanced Technology Use: Adaptive Structuration Theory', *Organization Science* 5(2): 121–47.
- Dougherty, D. (1992) 'Interpretive Barriers to Successful Product Innovation in Large Firms', *Organization Science* 3: 179–202.
- Eisenberg, E. (1990) 'Jamming: Transcendence through Organizing', *Communication Research* 17(2): 139–64.
- Eisenhardt, K.M. (1989a) 'Making Fast Strategic Decisions in High-velocity Environments', *Academy of Management Journal* 32: 543–76.
- Eisenhardt, K.M. (1989b) 'Building Theories from Case Study Research', *Academy of Management Review* 14(4): 532–50.
- Eisenhardt, K.M. (1997) 'Strategic Decision Making as Improvisation', in V. Papadakis

- and P. Barwise (eds) *Strategic Decisions*, pp. 251–7. Norwell, MA: Kluwer Academic Publishers.
- Eisenhardt, K.M. and Brown, S.L. (1998) 'Time Pacing: Competing in Markets that Won't Stand Still', *Harvard Business Review* (March–April): 59–69.
- Eisenhardt, K.M. and Tabrizi, B.N. (1995) 'Accelerating Adaptive Processes: Product Innovation in the Global Computer Industry', *Administrative Science Quarterly* 40: 84–110.
- Ellis, R.J. (1982) 'Improving Management Response in Turbulent Times', *Sloan Management Review* 23(2): 3–11.
- Emery, F. and Trist, E. (1965) 'The Casual Texture of Organizational Environments', *Human Relations* 18: 21–32.
- Forniash, M. (1992) 'A Phenomenological Analysis of Nordoff–Robbins Approach to Music Therapy: The Lived Experience of Clinical Improvisation', *Music Therapy* 11: 120–41.
- Gosvami, O. (1957) *The Story of Indian Music*. Bombay: Asia House.
- Hannan, M.T. and Freeman, J. (1989) *Organizational Ecology*. Cambridge, MA: Harvard University Press.
- Hatch, M.J. (1997) 'Jazzing up the Theory of Organizational Improvisation', *Advances in Strategic Management* 14: 181–91.
- Hatch, M.J. (1999) 'Exploring the Empty Spaces of Organizing: How Improvisational Jazz Helps Redescribe Organizational Structure', *Organization Studies* 20(1): 75–100.
- Hedberg, B.L.T., Nystrom, P.C. and Starbuck, W.H. (1976) 'Camping on Seesaws: Prescriptions for Self-designing Organizations', *Administrative Science Quarterly* 21: 41–65.
- Hermans, H.J. and Kempen, H.J. (1998) 'Moving Cultures: The Perilous Problems of Cultural Dichotomies in a Globalizing Society', *American Psychologist* 53(10): 1111–20.
- Hofstede, G. (1991) *Cultures and Organizations: Software of the Mind*. London: McGraw-Hill.
- Hofstede, G. (1993) 'Cultural Constraints in Management Theories', *Academy of Management Executive* 7(1): 81–94.
- Hutchins, E. (1991) 'Organizing Work by Adaptation', *Organization Science* 2(1): 14–39.
- Jarvenpaa, S.L. and Leidner, D. (1999) 'Communication and Trust in Global Virtual Teams', *Organization Science* 10(6): 791–815.
- Jarvenpaa, S.L. and Shaw, T.B. (1998) 'Swift Trust in Global Virtual Teams', unpublished manuscript, University of Texas at Austin.
- Johnson, B.M. and Rice, R.E. (1984) 'Reinvention in the Innovation Process: The Case of Word Processing', in R.E. Rice (ed.) *The New Media*, pp. 157–83. Beverly Hills: Sage.
- Johnson, B.M. and Rice, R.E. (1987) *Managing Organizational Innovation: The Evolution from Word Processing to Office Information Systems*. New York: Columbia University Press.
- Kao, J. (1997) *Jamming*. New York: Harper Collins.
- Katzenbach, J.R. and Smith, D.K. (1992) *The Wisdom of Teams: Creating the High Performance Organization*. Cambridge, MA: Harvard Business School Press.
- Laubacher, R.J., Malone, T.W. and MIT Scenario Group (1997) *Two Scenarios for 21st Century Organizations: Shifting Networks of Small Firms or All-encompassing "virtual countries"?* Cambridge, MA: MIT.
- Lipnack, J. and Stamps, J. (1993) *The Teamnet Factor: Bringing the Power of Boundary Crossing into the Heart of your Business*. Essex Junction, VT: Oliver Wright.
- Machin, D. and Carrithers, M. (1996) 'From "Interpretative Communities" to "Communities of Improvisation"', *Media, Culture and Society* 18: 343–52.
- Mason, R.O. (1969) 'A Dialectical Approach to Strategy Planning', *Management Science* 15 : B403–B414.
- Mason, R.O. (1996) 'Commentary on Varieties of Dialectical Change Processes', *Journal of Management Inquiry* 5(3): 293–9.
- Meyerson, D., Weick, K.E. and Kramer, R.M. (1996) 'Swift Trust and Temporary Groups', in R.M. Kramer and T.R. Tyler (eds) *Trust in Organizations: Frontiers of Theory and Research*, pp. 166–95. Thousand Oaks, CA: Sage.
- Miller, D. (1993) 'The Architecture of Simplicity', *Academy of Management Review* 18(1): 116–38.
- Miner, A., Moorman, C. and Bassoff, P. (1997) *Organizational Improvisation in New Product Development*, Report No. 97-110. Cambridge, MA: Marketing Science Institute.
- Mintzberg, H. (1995) 'The Structuring of Organizations', in H. Mintzberg, J.B. Quinn and S. Goshal (eds) *The Strategy Process: European Edition*, pp. 350–71. Hertfordshire: Prentice Hall Europe.
- Mintzberg, H. and McHugh, A. (1985) 'Strategy Formation in an Adhocracy', *Administrative Science Quarterly* 30: 160–97.
- Mintzberg, H. and Waters, J.A. (1982) 'Tracking Strategy in an Entrepreneurial Firm', *Academy of Management Journal* 25: 465–99.

- Mirvis, P.H. (1998) 'Practice Improvisation', *Organization Science* 9(5): 586–92.
- Mitroff, I.I. and Emshoff, J.R. (1979) 'On Strategic Assumption Making: A Dialectical Approach to Policy and Planning', *Academy of Management Review* 4(1): 1–12.
- Moorman, C. and Miner, A. (1998a) 'Organizational Improvisation and Organizational Memory', *Academy of Management Review* 23(4): 698–723.
- Moorman, C. and Miner, A. (1998b) 'The Convergence Between Planning and Execution: Improvisation in New Product Development', *Journal of Marketing* 62: 1–20.
- Nakata, C. and Sivakumar, K. (1996) 'National Culture and New Product Development: An Integrative Review', *Journal of Marketing* 60: 61–72.
- Nielsen, R.P. (1990) 'Dialogic Leadership as Ethics Method', *Journal of Business Ethics* 9(10): 765–83.
- Northcraft, G.B., Polzer, J.T., Neale, M.A. and Kramer, R.M. (1995) 'Diversity, Social Identity and Performance: Emergent Social Dynamics in Cross-functional Teams', in S.E. Jackson and M.N. Ruderman (eds) *Diversity in Work Teams: Research Paradigms for a Changing Workplace*, pp. 69–96. Washington, DC: American Psychological Association.
- Omaha, K. (1999) *The Borderless World: Power and Strategy in the Interlinked Economy*, revised edn. New York: Harper Business.
- Orlikowski, W.J. (1996) 'Improvising Organizational Transformation Over Time: A Situated Change Perspective', *Organizational Dynamics* 7(1): 63–92.
- Orlikowski, W.J. and Hofman, J.D. (1997) 'An Improvisational Model for Change Management: The Case of Groupware Technologies', *Sloan Management Review* (Winter): 11–21.
- Orr, J. (1990) 'Sharing Knowledge, Celebrating Identity: War Stories and Community Memory in a Service Culture', in D.S. Middleton and D. Edwards (eds) *Collective Remembering: Memory in Society*, pp. 35–47. Beverly Hills, CA: Sage.
- Pearson, C.M., Clair, J.A., Misra, S.K. and Mitroff, I.I. (1997) 'Managing the Unthinkable', *Organizational Dynamics* 25(2): 51–64.
- Peng, K. and Nisbett, R.E. (1999) 'Culture, Dialectics, and Reasoning about Contradiction', *American Psychologist* 54(9): 741–54.
- Perlmutter, H. (1965) *Towards a Theory and Practice of Social Architecture*. London: Tavistock.
- Perrow, C. (1986) *Complex Organizations*, 3rd edn. New York: Random House.
- Perry, L.T. (1991) 'Strategic Improvising: How to Formulate and Implement Competitive Strategies in Concert', *Organizational Dynamics* 19(4): 51–64.
- Peters, T.J. (1992) *Liberation Management: The Necessary Disorganization for the Nanosecond Nineties*. New York: Alfred A. Knopf.
- Peters, T.J. (1994) *The Tom Peters Seminar*. New York: Vintage Books.
- Poole, M.S. and Van de Ven, A.H. (1989) 'Using Paradox to Build Management and Organization Theories', *Academy of Management Review* 14(4): 562–78.
- Schein, E. (1985) *Organizational Culture and Leadership*. San Francisco: Jossey-Bass.
- Schneider, S.C. (1987) 'Information Overload: Causes and Consequences', *Human Systems Management* 7: 143–53.
- Scribner, S. (1986) 'Thinking in Action: Some Characteristics of Practical Thought', in R.J. Sternberg and R.K. Wagner (eds) *Practical Intelligence: Nature and Origins of Competence in the Everyday World*, pp. 13–30. Cambridge: Cambridge University Press.
- Senge, P.M. (1990) *The Fifth Discipline: The Art and Practice of the Learning Organization*. London: Century Business.
- Sewell, G. (1998) 'The Discipline of Teams: The Control of Team-based Industrial Work through Electronic and Peer Surveillance', *Administrative Science Quarterly* 43: 397–428.
- Sharron, A. (1983) 'Time and Space Bias in Group Solidarity: Action and Process in Musical Improvisation', *International Social Science Review* 58(4): 222–30.
- Smircich, L. and Stubbart, C. (1985) 'Strategic Management in an Enacted World', *Academy of Management Review* 26: 724–36.
- Southworth, J.S. (1983) 'Improvisation for Nonmusicians: A Workshop Approach', *Journal of Creative Behavior* 17(3): 195–205.
- Stacey, R.D. (1991) *The Chaos Frontier: Creative and Strategic Control for Business*. Oxford: Butterworth-Heinemann.
- Stacey, R.D. (1996) *Complexity and Creativity in Organizations*. San Francisco: Berrett-Koehler.
- Strauss, A. and Corbin, J. (1990) *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. Newbury Park, CA: Sage.
- Symon, G. and Cassell, C. (1998) 'Reflections on the Use of Qualitative Methods', in G. Symon and C. Cassell (eds) *Qualitative Methods and Analysis in Organizational Research*, pp. 1–9. London: Sage.

- Weick, K.E. (1979) *The Social Psychology of Organizing*, 2nd edn. New York: McGraw-Hill.
- Weick, K.E. (1993a) 'Organizational Redesign as Improvisation', in G.P. Huber and W.H. Glick (eds) *Organizational Change and Redesign*, pp. 346–79. New York: Oxford University Press.
- Weick, K.E. (1993b) 'The Collapse of Sensemaking in Organizations: The Mann Gulch Disaster', *Administrative Science Quarterly* 38: 628–52.
- Weick, K.E. (1995) *Sensemaking in Organizations*. Thousand Oaks, CA: Sage.
- Weick, K.E. (1998) 'Introductory Essay: Improvisation as a Mindset for Organizational Analysis', *Organization Science* 9(5): 543–55.
- Weick, K.E. (1999) 'The Aesthetic of Imperfection in Organizations', *Comportamento Organizacional e Gestão* 5(1): 5–22.
- Wilkinson, D. (1995) 'Central Civilizations', in S.K. Sanderson (ed.) *Civilizations and World Systems: Studying Historical Change*, pp. 46–74. London: Altamira Press.
- Wolf, E.R. (1994) 'Perilous Ideas: Race, Culture, People', *Current Anthropology* 35: 1–12.
- Yates, J. and Orlikowski, W.J. (1999) *Knee-jerk Anti-LOOPism and Other E-mail Phenomena: Oral, Written, and Electronic Patterns in Computer-mediated Communication*, Technical report No. 150. Cambridge, MA: MIT Center for Coordination Science.
- Yin, R.K. (1984) *Case Study Research*. Beverly Hills, CA: Sage.
- MIGUEL PINA E. CUNHA is in the Universidade Nova de Lisboa, Faculdade de Economia, Rua Marquês de Fronteira, 20, 1099-038 Lisboa, Portugal.
[email: mpc@feunix.fe.unl.pt]
- JOÃO VIEIRA DA CUNHA is a PhD Student in Organization Studies at the MIT School of Management, Office E52-509, 50 Memorial Drive, 02142 Cambridge, MA, USA.
[email: jvc@mit.edu]

Résumé

Diriger l'improvisation dans des groupes virtuels et interculturels (Miguel Pina e Cunha et João Vieira da Cunha)

En prenant base pour une recherche théorique, on offre un modèle d'improvisation dans des espaces interculturels. La contribution majeure sert à faire progresser le concept de groupe dialectique ou la structure minimale, une perception compatible de réalité encourage une action improvisée avec des membres divers qui répondent à un milieu turbulent en utilisant des sources simples. Cet arrangement crée des conditions qui permettent à un groupe d'improviser parfaitement en le rendant effectif. Ce modèle renforce l'argument qui est pour la perspective dialectique des organizations; il met au jour la présence d'une relation curvilinéaire dans des phénomènes interculturels où on pensait que ceux qui sont linéaires vont vaincre et offre des réponses alternatives aux problèmes posés dans des recherches interculturels.

摘要

跨文化组织中的高效性管理

Miguel Pina e Cunha and João Vieira da Cunha

在基础理论研究的基础之上，文章作者归纳出在跨文化的背景下高效性管理的模式。这种模式的功效在于加强了可塑性组织这一理念。可塑性组织这一理念是指通过最小的组织结构和对现实的共识性来促进高效的管理活动。组织中不同的成员以现有的资源来应付复杂的不断变化的外部环境。这种编排方式可以创造出相应的条件以便能使组织进行成功的高效管理。这一模式增强了企业可塑性及适应性论点的可能性。同时这一模式也揭示了跨文化现象之间的相互交织的关联方式，而以往这些现象被认为是相互直接关联的。这一模式对跨文化研究中的问题提供了另一种解答方法。