

## Communicative Strategies and the Evolution of Organisations Facing the New Turbulence: ICTs as Problems and Opportunities

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**ABSTRACT** *Traditional organisational structures are currently being challenged by rapid changes in their environments, primarily caused by the introduction of computer and information technology. Successful transition to new patterns of organisation which makes sense of the complex meaning of these new environments require both 'creative' (self-organising) and stabilising (self-referencing) processes. This paper justifies the theoretical importance of considering communication as a necessary response by organisations to non-linear change. The processes by which organisations might accommodate new organisational turbulence and strategies for creating desirable futures within turbulent organisational environments are considered.*

**Keywords:** communication, organisational change, organisational learning, organisational communication, information and communication technology (ICT) and sense making.

### Introduction

Traditional bureaucratic organisational structures are currently being challenged by rapid changes in their environments. Environmental turbulence in organisations has been primarily caused by the introduction of computer and information technologies,<sup>1</sup> the accelerating growth in scientific and technical knowledge,<sup>2</sup> and its subsequent implementation in companies with a resultant and recursive increase in organisational complexity. In addition, demands for international competitiveness<sup>3</sup> and the globalisation of industries have resulted in a large scale corporatisation of firms.<sup>4</sup>

In turn, these changes have demanded that firms and their members are more adaptable in their new forms of working environments. For example, organisations are expected to complete larger amounts of work in a shorter space of time, with an increased emphasis on quality. In view of this, computerisation and mechanisation have created a predicament which is paradoxical to the original intent of simplifying daily work procedures.<sup>5</sup> Arguably, the current convergence in computing, broadcasting and telecommunications has both accelerated and changed the character of organisational environments.<sup>6</sup>

Rapid changes in organisational environments are comparable to 'bifurcations' in the trajectories of dynamic systems; these points of deviation in a system's evolutionary path represent a state of apparent 'chaos'.<sup>7</sup> Herein, the *raison d'être* of this paper arises: Do

metaphors<sup>8</sup> derived from the study of systems help explain the current information and communication technology (ICT) mediated environments of organisations; and do they suggest approaches as to how organisations might understand and deal with the current turbulence they are facing? In order to answer these questions we introduce the literature on organisational sense making as a set of ideas which fleshes out the processes—suggested in general by systems metaphors—by which we may monitor, understand and intervene in organisational trajectories,<sup>9</sup> with the intention of increasing the chances of creating desirable futures within turbulent environments.

In brief we argue that systems metaphors suggest that organisations maintain a continual tension between self-referencing and self-organising properties during the course of their evolution. Self-organisation is an approach whereby a system tries to adapt to environmental changes, as opposed to its own self-referencing ability, which tries to preserve its original nature or identity.<sup>10</sup> There is a continual tension between the opposing properties of self-organisation and self-reference in systems or firms in the course of their evolution in time and space. A similar pull and push occurrence has been highlighted by other theorists when viewing organic, demographic and systems' evolutionary trajectories.<sup>11</sup> Organisational dynamic theorists refer to the phenomenon in the form of feedback cycles<sup>12</sup> and open-closed system issues.<sup>13</sup>

The point of change for organisations comes, metaphorically speaking, when environmental pressures make it difficult to sustain the current ways of organising. At this point the system moves to a new pattern of organisation (metaphorically speaking, a higher level of energy). The point of conflict between the two opposing systemic forces (self-referencing and self-organising) allows the introduction of 'creativity' or 'diversity' to help steer a system's evolutionary trajectory towards its members' desired emergent 'will'.<sup>14</sup> Malik and Probst describe the tensions as a pattern that can be studied to make calculated interventions by human beings, with a view to achieving desirable outcomes in the future.<sup>15</sup> But exactly how might this be achieved?

We suggest that the essential processes are communicative in nature and that therefore a conceptual understanding of the role of communication in organisational transitions is warranted. In this paper we seek to justify the theoretical importance of considering communication as a necessary response by organisations to non-linear change in three ways. Firstly, we argue that the convergence of technologies has changed the 'currency' of relations in an organisational environment from managing the speed of data flow, to managing the negotiation of meanings.<sup>16</sup> Secondly, we discuss how communication may be described by using metaphors from chaos theory. In particular, in the literature on organisational communication the two conflicting foci, 'communication in organisations' and 'communication as organisation', can be reconciled via an understanding of the concepts of self-reference and self-organisation.

Thirdly, we describe how communication intervenes to manage turbulence. The ongoing process in which a firm's members reflect on their actions and recent developments in their organisational environment is described as 'sense making'<sup>17</sup> and is argued to be an emergent process.<sup>18</sup> This process helps to identify problems and issues that are relevant to a firm at a particular point in time<sup>19</sup> and to decide upon a counteractive interventionist strategy to modify or govern a situation.

In the context of this paper, the complete process of reflection, decision making and action in a firm can be described as organisational learning,<sup>20</sup> that is, an attempt by the firm to accommodate its rapidly changing environment. In contrast to conventional managerial or interventionist thinking, systems theory metaphors emphasise the indeterminate nature of change interventions. Organisational action occurs via a combination of emergent external conditions and emergent internal communication processes. A

self-organising approach to internal communication therefore heightens the probability that an organisation will make the transition to a new pattern of viability.

### **The Convergence of ICTs and Organisational Environments**

The first information technology (IT) phase accelerated the rate of information flow, but the meaning of the data remained unproblematic.<sup>21</sup> While convergence continues to increase the rate of data flow, the meaning of information is now problematic. The converged system mixes sources and modes of communication (such as videoconferencing and Email), stores repertoires of communication (Intranet and Internet), mixes genres on the one screen (TV and Email), and shifts sites of communication (for example, the consumption of pornography at work). The shift, therefore, is from functional mediation to cultural mediation. The new problem is not just about rates of data flow, but rather about the construction of meanings in short time periods.

Mitroff and Bennis, for example, preempt the complexity of the emerging communicatively constructed environments.<sup>22</sup> They argue that these environments feature the enhanced capacity for fantasy; the juxtaposition of radically different contents and some subsequent warping of traditional content boundaries; the engineering of bizarre images; the overloading of information and the subsequent radical simplification of ideas; incestuous recycling and dilution of ideas and images; the reversal of natural patterns of causality by image manipulation; and the accentuation of the visual and emotional.

A key driver in the symbolic complexity of this environment is the move to commodification as the major means of exchange between organisations and environments. As described elsewhere,<sup>23</sup> this commodification expresses itself in cultural symbolic terms as well as instrumental and logistical terms. In other words, as physical survival becomes increasingly taken for granted, organisations are more frequently engaged in producing goods and services which serve the interest of human identities, not human bodies. Although not required for the current argument, the literature describing the shift from modern to postmodern conditions could be used to flesh out this argument.<sup>24</sup>

A case in point which illustrates the shift to the postmodern is the recent corporate war between Microsoft and Netscape.<sup>25</sup> The seemingly unassailable position of Microsoft has been seriously (but not fully) threatened by Netscape. The problem for Microsoft was not simply a problem of keeping up with the speed of changes in the IT sector (it has more resources than anyone to throw at speed problems); rather, the problem was seeing what the changes *meant*. The move to networks was apparently pre-empted by the Microsoft bureaucracy but not before the founders of Netscape (who definitely were not a bureaucracy) had made a significant headstart. Moreover, while Microsoft seemed to foresee the technological applications of the Internet, they apparently underestimated the emerging cultural implications of its mode of operating.

### **Communication and Chaos: Accommodating the new Environmental Turbulence**

Just as the chaos metaphor establishes that organisations maintain a continual tension between self-referencing and self-organising properties during the course of their evolution, there is increasing evidence that communication might have a similar feature. Carole and Taylor state that ‘... deviations (in systems) are constantly cropping up that need dealing with and repairing ...’, thus suggesting the chaotic phenomena observed in human systems, which oblige a corrective measure.<sup>26</sup> Communication serves as the

medium to sense such deviations by organisational members, as well as an agency to establish a counteractive or balancing act. The end of such sense making through communication, which would culminate in an appropriate decision or action in a firm, would be indicated by that stage 'when further expansions, draw nothing new'.<sup>27</sup> This is self-referencing in action.

The 'moment of chaos' in systems relates to 'crises' in organisations wherein corporate decision makers must confront their 'culturally embedded logic, value-laden justifications, and corporate value systems' in addition to the rationales that support their communicative processes, in such predicaments.<sup>28</sup> Communication is necessary for making sense of a changing reality, by continually clarifying uncertain circumstances. Information sent or received gains meaning only against a context or frame of reference.<sup>29</sup>

The search for recurrent patterns in communication as a guideline for sense making may be similar to Gleick's reference to repetitive patterns in Lorenz's attractor and Mandelbrot's sets.<sup>30</sup> These may be seen as examples of 'requisite variety'<sup>31</sup> in naturally occurring systems and events, which set a rich context and guidelines for interpreting a situation in order to take an appropriate action, especially during a phase of turbulence or 'chaos'. Thus, communication not only builds the cultural and rational aspects of human systems as a frame of reference to help interpret changes in the boundaries of such systems, but also provides an inexhaustible source of variation.

Thus, communication serves as a source to clarify uncertain situations in an organisation by recurrent patterns of sense making until no further meaning is drawn; this is its self-referencing property. Additionally, it also helps societies or firms to adjust to changes in their milieu by serving as a medium which transforms decisions into actions, based on the interpretation of the information received. This is communication's self-organising feature.

Within traditional communication theory, Thayer explains that when people organise themselves into collective enterprises, they also organise the flow of 'enterprise-related information' or organisational communication; in this way the strategic relationships between and among the various working parts of the firm or social system are established.<sup>32</sup> This suggests that communication is a tool for maintaining a perceived 'state of organisation'.

Bach and Harnish argue that actions which result in 'changes in institutional states of affairs' require only that an 'utterance' count as an act of a certain sort merely 'by virtue of falling under the relevant convention'.<sup>33</sup> The inference being that the communicative act is complete when there is total comprehension of the intent behind a statement, either explicitly or implicitly. It also means that no response is necessary from a recipient for completing the communicative act; and if there is one, it is totally driven by 'convention'.<sup>34</sup> Thus the organisational culture is a frame of reference or context, to make sense of a communicative act. Hence communication is reduced to the role of a tool for achieving preconceived goals to maintain an intended state of 'organisation', alternatively referred to as 'communication in organisation'.

However, this raises two queries: Firstly, how do organisational cultures or conventions emerge: what constructs a culture? Secondly, how are 'preconceived goals' arrived at? The answers to both these questions are contained in the argument that communication has an alternative role—that of being the very decision making process and thus the very act of organising. The hypothesis is a view of 'communication as organisation' instead of 'communication in organisation'; here a higher level or role of communication in the organising act is suggested. The dynamics of such a 'communication as organisation' perspective need to be analysed to clarify issues.

Katz and Kahn hinted at a 'communication as organisation' argument when stating that communication is a 'social process' of 'broadest relevance in the functioning of any group' and thus, 'the very essence of a social system or an organization'.<sup>35</sup> Thayer alludes to the view that if organisations were to 'evolve naturally' their communication systems would also evolve with them, 'consistent with their needs, whatever those may be'.<sup>36</sup> Therefore, a supposition may be that such a 'communication as organisation' view is a reference to the informal organisation, as opposed to its formal structure. Thus, even from a traditional communication theory perspective, an implication seems to be that the actual decision making act is brought about by informal conversation, alternatively referred to as the 'grapevine', rather than policies, documents or other formal structures, even though these continue to contribute toward building a frame of reference.

The importance of the informal organisation is reiterated in modern speech communication theory. Taylor reasons, that 'if communication is equivalent to organization then conversation must be the arena for the realization of transactions'.<sup>37</sup> Similarly, Searle describes the 'narrative' style of conversation as a form of organisational discourse and an attempt to create the image of a firm in the form of a 'symbolic entity'.<sup>38</sup>

An example of this is found in Pacanowsky's description of the A. L. Gore case, in which he attempts to build through the narrative style of his article and by using a metaphor, the fabric of Gore's organisational culture.<sup>39</sup> He refers to narrative 'stories' about members in the firm, which tried to portray ideal 'roles' or objectives that needed to be pursued. By realising what the firm's goals meant to them, these stories motivated the firm's members to enact the roles. Additionally, a new knowledge of what their roles meant or contributed toward the making of the firm gave them a sense of ownership. Thus empowered, they were willing to offer the price of 'membership' to Gore by way of employment to attain a state of self-realisation and consequently, satisfaction, on the one hand, and productivity for the firm on the other. The creation of a symbolic entity by narrative properties of communication served as a 'macroframe' of reference for 'microinteraction'.<sup>40</sup>

Thus, in the 'communication as organisation' perspective the narrative role of communication, as found in the informal organisation, culminates in the empowerment of people through enactment of intent, bringing about the very act of organising or constructing their social reality.

The attempt to achieve these newly defined goals (which correspond to the closed phases of an organisation's evolution), requires communication to be reduced to a merely executive role, as found in the 'communication in organisation' concept. It is therefore a cycle, which might begin with a 'communication in organisation' perspective, transforming to 'communication as organisation', before reducing once more to the original status, while executing what has been decided upon for a future course of action by a firm's members.

Similarly, Stacey argues that firms sequentially undergo both closed and open phases in their evolution.<sup>41</sup> The closed phase corresponds to the time that members spend reflecting on actions and studying information that is made available to them about recent environmental changes. This is followed by an open phase of evolution, when members decide on a strategy—a plan to manage or govern these changes, as found in informal strategic planning measures, or to create desirable futures in keeping with the newly acquired set of assumptions.

In an effort to resolve disturbance or uncertainty, communication can assume a self-organising property which can facilitate members' interactions with their changing perceptions of reality. Communication might then help members to achieve desirable futures by extending to them the power to execute their 'intent' or to socially construct

a reality, based on their assumptions. This creates an opportunity for developing a new firm, in keeping with their wills or desires. This is the 'communication as organisation' view.

### **Communication Toward 'Calculated Interventions': Strategies for Facing Chaotic Transition**

In the case of learning organisations, communication does more than just help members to 'reproduce their environments'; it helps to 'selectively process and reconstitute those environments through selective generalisation'.<sup>42</sup> 'Selective generalisation' means that 'typically a system has several alternatives at hand with which it can intercept and neutralize changes in its environment. It is precisely upon this elasticity that its stability rests, as well as its ability to find favorable conditions of existence'.<sup>43</sup>

Thus, through the dual properties of communication, organisational members achieve the ability to understand and modify their changing reality by transforming their decisions into actions. In view of this, communication entails an empowering attribute: through its dual properties 'one comes to believe that one can influence people and events in the organization to achieve desired ends'. Further, 'one is not merely at the mercy of external forces (political, economic, or social); rather, individuals recognize ways by which they can directly intervene in the environment'.<sup>44</sup>

The key ingredient, then, is to facilitate ongoing processes of communication that will encourage the required variation and the new pattern of organisation. Conversations, narratives—the 'informal' side of the organisation once thought superfluous—becomes the seedbed of the future, to be encouraged. Through this process, the essential idea or innovation which will act as the 'strange attractor' toward the new pattern may be uncovered. ICTs may themselves facilitate this process in a number of ways.

Firstly, communication technology may take on the role of facilitator in this learning exercise. It should be learning-supportive by offering itself as a repository of tacit knowledge<sup>45</sup> that has been created by previous learning experiences, thus forming a richer context for the sense and decision making acts. Intranet and other means of storing a community's history suggest themselves here.

Secondly, communication technology could aim to be, in itself, an increasingly efficient system for facilitating rapid information dissemination about continual environmental changes and demands among members of a firm. This is a mechanical or 'communication in organisation' role that could help a firm to learn the limitations of an extant tool or technology, and of the latest needs of its environment. Equitable access to information for all members via user friendly communication technologies within a firm promotes a learning environment.

Thirdly, a communication technology could act as an 'attractor' or 'deviant'<sup>46</sup> as explained in the chaos theory metaphor.<sup>47</sup> That is, the technology may be selected for further use on a larger scale. Members, through consensual decision making, may execute or amplify the use of an increasingly advantageous communication technology. The diffusion of videoconferencing, and subsequent organisational innovation may in (rare) cases proceed in this manner.<sup>48</sup>

In the first phase of IT diffusion, ICTs operated in concert with the closed phase of organisational evolution, which required that members maintain a state of affairs or an existing plan. These technological interfaces were tools for disseminating information which was helpful for efficiently maintaining a firm in its stable phases.

In the current phase of ICT diffusion, ICTs *may also* facilitate frame-breaking and self-organising into the new patterns of organisational functioning required by environ-

mental turbulence. ICTs may facilitate variety, diffusion, juxtaposition and sense making. Whether they are used in this way is not only a feature of their functional properties, but also of their emergent social construction.

## Conclusions

Converging ICTs have changed the complexity that organisations now face. The meaning, in addition to the rate of complex information flows, must now be dealt with. Insight into successful transitions (for new and old firms) in these environments can be gained via metaphors from non-linear and complex systems concepts.<sup>49</sup> Successful transitions are non-deterministic processes which sustain the self-referencing needs of the organisation, whilst allowing for self-organisation in new patterns of operation. This demands communication toward variety and diffusion of ideas, as well as procedural communication. New ICTs may facilitate self-organisation because they may offer repositories of easy and equitable access to knowledge, as well as rapid diffusion and juxtaposition of ideas. Ultimately, though, it is the organisation's social construction of the technologies they select which will make this more probable.

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