Meta-phrasing Information and Communication Technology Metaphors to Business Networks: Reflections on How We Make Sense of Business Relationships

Competitive Paper submitted for the 19th IMP Conference, Lugano, CH

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Abstract

Recent developments in Information and Communication Technology (ICT) have clearly been much focused on how best to design and manage complex Inter-Organisational Information Systems. But in the same way that the IMP Group has traditionally used metaphors to facilitate our understanding of how companies interact, so too have researchers in Information Systems used different metaphors to aid their own. Both disciplines also overlap in their interest in networks, although this metaphor itself serves different purposes to the two groups. In this paper we look at some of the metaphors used within Information and Communication Technology and comment upon what we may be able to learn from these in terms of designing and operating within complex inter-organisational business relationships.

This paper is structured around three broad themes. First, based upon earlier work, we look at the role of metaphors in management studies in general. We then go on to comment upon some of the metaphors used by researchers working with Information and Communication Technology and finally we assess the extent of their applicability in aiding us to make sense of complex business relationships.

Keywords

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"[M]etaphor consists in giving the thing a name that belongs to something else…"
Aristotle, Poetica 1457b

Introduction

The use of metaphors is widespread, even if we do not recognise them or use them intentionally. Metaphors as integral sense-making devices are also crucial to academic studies. The history of economic theory is a case in point. The first comprehensive economic models were developed by men using their knowledge of the human body and the trope of the blood stream to model economic markets and interactions (Blaug, 1988). Metaphors have played their part in the evolution of economics and of virtually every discipline (Klamer and Leonard, 1994). In this paper we will use the power of metaphors to look at business relationships and "networks". A network itself implies connectivity, and is a metaphor for the existing interactions and interdependence amongst organisations. We will employ a methodology, which we have called "meta-phrasing", to draw on network metaphors that are common in the discipline of Information and Communication Technology (ICT) and employ them in the context of business networks. In order to do this, we will look firstly at the way metaphors are used in management studies in general. This will be followed by a brief description of how metaphors work and how we want to employ them. A discussion of what Information and Communication Technology metaphors can tell us about business relationships and networks will form the concluding part of the paper.

Metaphors in Management

In the general management literature, the use of metaphors is most commonly associated with organisational behaviour and the seminal work of Gareth Morgan (1980). He shows that the field of organisational behaviour, traditionally using "machine" and "organism" metaphors, has been dominated by a functionalist view and the boundaries inherent in these metaphors. He therefore advocates the use of alternative and competing metaphors (e.g. organisations as "ecosystems", "cultures", "language games", "texts", "psychic prisons") to *add rich and creative dimensions to organization theory*" (Morgan, 1980, p. 615). In his most famous book entitled "Images of Organizations", Morgan uses several metaphorical models to explore and compare the implications of their use in organisation studies (Morgan, 1986). While his use of metaphors does not go without criticism[1], it has proven to be extremely influential in, and beyond, the field of organisational behaviour.

With the advent of postmodern research that uses social constructivism and differing degrees of relativist theories, metaphors have become more prevalent as a new methodology in marketing as well (Brown, 1995; 1998). It is, however, possible to argue that the concept of metaphors has always been utilised in marketing (O'Malley and Tynan, 1999). One only needs to think of concepts like the "product life cycle", "segmentation and targeting", "marketing campaigns", or "marketing myopia" to understand the importance of metaphors for marketers. Postmodern tendencies and their tongue-in-cheek approach to using metaphors have had an impact on many different areas of marketing. One example is consumer behaviour research where a more

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[1] "a *mere supermarket of metaphors*", "*...sceptical about the extent to which novelty could be equated with value*", McCourt, 1997, pp. 516 and 519-20 respectively.

language-game-based and introspective-oriented school has provided a counterbalance to the dominant school of cognitive psychology (Holbrook, 1995; Brown, 1997).

However, besides the common use of different metaphors, Arndt (1985) argues that all (marketing) theories are embedded in metaphors through their paradigmatic inheritance, e.g. the concept of marketing instruments and the marketing mix utilises equilibrium metaphors inherited from its microeconomic ancestry built around logical empiricism. Although marketers tend not to discuss this inheritance and the resulting metaphors in any detail when writing about marketing (i.e. the metaphors have become ossified), their existence continually shapes our sense-making and theorising in marketing (Brown, 1998). It is therefore important to sometimes use "fresh" metaphors to soften the ossification of a research area.

How do Metaphors Work?

The workings of metaphors are important for our ontological understanding of the world. In a hierarchical sense, metaphors are the basis for "schools of thought" and therefore the outflow of certain paradigms/orientations which provide alternative ontological perspectives (Morgan, 1980). Metaphors work as a symbolic construct (Cassirer, 1955) in bridging the subjective and the outside ("objective") world. Most importantly, this subjective bridging experience can be shared (communicated) and is therefore not just a vehicle for creating meaning but also for exchanging meaning (Arndt, 1985). However, this bridging exercise is not perfect, in fact it is "*literally false*" (Hunt and Menon, 1995, p.82), it represents only "*partial truths and incomplete models*" and constitutes therefore a "*pluralistic perspective*" (Arndt, 1985, p.17). Implicit in this is the assumption of a coexistence of different metaphorical models and therefore paradigms at

the same time, a further development of Kuhn's idea of "paradigm shifts" (Kuhn, 1962; McCourt, 1997).

So what is a metaphor then? Essentially, metaphors equate something with something else which it is not. To use a famous example: Time is money (Klamer and Leonard, 1994). Although we do understand what is meant, we would not literally think of "time" as money, i.e. a means to buy our daily newspaper. However, we think of time as a kind of abstract currency, in the same way as money is the currency for economic exchange. Time as a currency gives us a new understanding of the quality of time that we would not have had without the use of the money metaphor. This basic mechanism of metaphors is called that of "crossing" (Morgan, 1980) or "bridging". While time is the object, money is the vehicle for this crossing exercise (Klamer and Leonard, 1994). Certain characteristics of money are now associated with time as well. However, metaphors only work well if the two basic elements that are equated show a certain degree of difference (e.g. "time" is in fact not "money"). However, too much difference makes the metaphor incomprehensible (e.g. time is an elephant); too little difference makes it a truism or a mere description.

The use of a metaphor therefore creates an image or a trope as well as associations, i.e. the related values and characteristics as the basis for further erudition. It is the basis for research activities that are commonly known as analysis, examination and operationalisation. However, this "puzzle-solving" (Kuhn, 1962) can only happen within the straight-jacket of a specific metaphorical construct, i.e. it has certain research perspectives and lenses already built-in. The metaphor has become "constitutive" (Klamer and Leonard, 1994).

In the marketing literature the use of metaphors is often advocated by marketing theorists to enrich the understanding of exchange relationships. Arndt (1985) argues that the use of metaphors in research on marketing can help counter the predominance of neo-positivist and logical empiricist approaches and *break free of paradigmatic provincialism*" (p. 20). It is claimed that the use of metaphors goes beyond its obvious linguistic roots and can be characterised as part of new and innovative scientific enquiry (McCourt, 1997). In this paper we will utilise metaphors in a specific way. We want to use them to shed light on networks and relationships between commercial organisations. However, we will not just use a simple metaphorical approach as a research methodology but something that we have called "meta-phrasing". This neologism comes directly from the Greek word "meta-phrase" which means "translate". It allows us to use **meta**phors to para**phrase**. Meta-phrasing describes the use of metaphors in a specific way: prevalent metaphors in one research area are employed to describe an object in another research area. To do this, both research areas need to have a related explanandum, i.e. their research objects must be structurally similar (isomorphic). As our main research object is business networks, we have searched for another management discipline that also looks at networks. Information and Communication Technology is such a discipline. In the following, we will therefore analyse the most important metaphors that are employed in the ICT literature to describe networks as well as their implications and underlying conceptual foundations. We will use these ICT metaphors in the context of marketing activities in a Business-to-Business (B2B) network and analyse what new insights these metaphors provide. In so doing, we will also be able to compare the ICT network metaphors to IMP metaphors for a juxtaposition of different network perspectives.

The Use of Metaphors in Understanding Business Relationships

The use of metaphors in the network literature is ubiquitous. This is true for the Business-to-Consumer (B2C) literature on Customer Relationship Marketing (CRM) as well as for network approaches in the Business-to-Business (B2B) area (the IMP Group). To begin with, a short overview of the most commonly used metaphors in the CRM literature is provided, followed by some comments on the use of metaphors in B2B network marketing.

In CRM the "marriage" metaphor dominates the literature. It focuses on the core aspect of the characteristics of relational exchange, i.e. its trust and commitment base (Morgan and Hunt, 1994). A grasp of the characteristics of interpersonal relationships is said to enhance our understanding of commercial interactions (O'Malley and Tynan, 1999). The use of this specific metaphor in B2C exchanges can be traced back to a book by Levitt (1983) and has been the foundation of much writing on customer relationship management and the marketing to key customers. Its clearest articulation can be found in an article by Hunt and Menon (1995). Dwyer et al. (1987) have introduced a dynamic version of the marriage metaphor by enlarging the construct into a phase model covering "awareness-exploration-expansion-commitment-dissolution" of a relationship, i.e. the initiation, consumption, and ultimately break-down of a marriage. Wilkinson and Young (1994) built upon this theme by examining the different ways in which two parties interact, using the metaphor of dancing and music.

Recently, it has been argued that the use of the marriage metaphor for relationship management is of only limited appropriateness. Its application in a mass market has been criticised (O'Malley and Tynan, 1999), in line with discussions about the "domain" of relationship marketing.

Criticisms have focused on a) the number of parties involved (two instead of a network approach), b) their specific characteristics, c) the quality of the exchanged sacrifices and benefits as well as d) the implied time dimension. These assumptions are seen to be as not helpful or plainly misleading to our attempts at a better understanding or normative view of relational exchanges (Tynan, 1997; Brown, 1998; O'Malley and Tynan, 1999). The dominance of the marriage metaphor in CRM is reflected in the B2C area where the emphasis is predominantly on the interaction between one company and one individual customer. The fundamental elements of network metaphors, i.e. an elucidation of the characteristics of nodes and connections (Davern, 1997), has not been achieved. The marriage metaphor does not take into account the network complexities on the company or the customer side.

In the B2B area a similar picture emerges. The predominance of the abovementioned "marriage" metaphor has been noted before (Wilkinson et al. 1998). Related metaphors (e.g. "friendship") are also used. The only deviating metaphors used in the IMP literature are those of "dancing", employed first by Wilkinson and Young (1994) and further developed by Wilkinson et al. (1998), and that of "relationship atmosphere", e.g. Michel et al. (2003)

Metaphors in Information and Communication Technology[2]

The terms "Information Systems (IS)" or "computer-based IS" were the ones used to describe Information and Communication Technology in the 1990s. In this paper we use IS to refer to the discipline or field of information systems and ICT to refer to the information and communication system itself. It is however important to note that this term is not restricted to the technical

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[2] The following text draws heavily on Walsham (1993) chapter 2.

aspects of the system. We, therefore, take an Information and Communication System to be "*a system which assembles, stores, processes and delivers information relevant to an organization (or to society), in such a way that the information is accessible and useful to those who wish to use it, including managers, staff, clients and citizens. An information system is a human activity (social) system….*" (Buckingham et al., 1987:18) In studying Information Systems we are thus equally interested in the organisational and managerial contexts that surround and shape the development, implementation, use and evaluation of an Information System. Given ICT's ability to connect individuals, groups and entire organisations, the notion of network may be said to be an integral, if not inherent, feature of an Information Systems. Business relationships (networks) and Information and Communication Systems may therefore be said to be isomorphic.

Research on metaphors in Information Systems can be traced back to the work of Walsham (1991, 1993). Building on the seminal work of Morgan (1986), as well as the work of others, Walsham uses eight metaphors of organisations to identify metaphors of computer-based Information Systems. He distinguishes between metaphors *about* our conceptualisation of the role of ICT in organisations and metaphors used *in* organisations to talk about ICT. While the two areas are related, in that one feeds into the other, it is possible to argue that the first group of metaphors describes our research efforts (theory) and the second group is about the world of practitioners (practice). In this paper we focus primarily on the former and discuss possible implications for practice. Based on Walsham (1993) we focus on five dominant metaphors which describe the role of ICT in organisations. We introduce first the originating metaphor (Morgan, 1986), followed by Walsham's adaptation thereof to ICT.

Metaphor 1

Organisations as Machines – ICT as Discrete-Entity Models

Falling within the so-called "scientific management" approach (Taylor, 1911) this school of thought is concerned with enabling the creation of perfect productive machines using the raw ingredients of people and material resources. Within it Kling (1987) identifies one way of conceptualising ICT as "discrete-entity models" thus focusing on the economic, physical or information processing features of the technology. The social context is reduced to a set of formal relations or completely ignored. Emphasis is on formal goals and procedures. The organisation and the technology are thus conceptualised as linear systems consisting of interrelated components with clearly defined relations and exchanges between the parts. Applying our meta-phrasing methodology, we proceed to transfer characteristics of ICT metaphors to business relationships or networks.

Machines, Discrete-entity Models and Business Relationships

This specific metaphor has not been explicitly utilised in the IMP research. However, the attempt to conceptualise business relationships within a network as discrete-entity relations, for example through the use of diagrams, has been widely used. It can be argued that this leads to a restricted concept of a network in which the broader context is being ignored. It is indeed an oxymoron that while the IMP group has been at the forefront of presenting a 'network' view of business relationships, the diagrams presented of such networks are usually fairly narrowly defined. Moreover, network diagrams do not take into account that business networks are also constructed and altered over time. They offer a very static view with fixed roles and positions and tend to focus on economic exchanges rather than relationships. This leads to the problem of where to

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draw network boundaries. At the edge of managerial relevance – at the risk of losing insights that a broader vision might bring? Attempts to draw network boundaries or to investigate focal or strategic nets (Möller and Halinen, 1999) make the problem overt. The usefulness of this metaphor lies as much in the way in which it reminds us of the dangers of adopting this narrow approach, namely ignoring the broader context, adopting a static view revolving around economic exchanges. This would suggest a positivistic outlook on the world.

Metaphor 2:

Organisations as Organisms – ICT as Socio-Technical Systems

Utilising this metaphor, organisations are seen as living systems, with this stream of work emphasising the importance of social needs and human factors. Two approaches may be broadly defined: the socio-technical (e.g. Trist, 1982) and the contingency approach (e.g. Lawrence and Lorsch, 1967). The former is based on the premise that the social and technical aspects of work are interdependent. It has translated into an interest in determining system requirements and system design procedures following a participative approach (Mumford and Weir, 1972) aimed at improved task efficiency and job satisfaction. The latter approach sees organisations as open systems that seek to satisfy internal needs as well as adapt to the environmental circumstances that they face. Current ICT literature and consultancy work is preoccupied with this view and the search for a good fit between the organisation and its environment (Walsham, 1993; Porter, 1980; Porter 1985). Organisations and ICT are thus conceptualised as changing systems of highly interdependent organs that in turn are dependent on their environment for survival. They cannot and do not exist in isolation and rely on contextual contingencies in order to survive. We can therefore argue that this view is informed by a social constructionist stance.

Organisms, Socio-technical Systems and Business Relationships

Living bodies move, grow, and interact with the environment. They are both dependent upon the environment for their nourishment, and yet also shape that environment. Similarly, business relationships change, grow and interact with their context. The IMP work does not regard this context as an abstract and faceless topology but as a network of relationships (e.g. Easton and Araujo, 1997; Hakansson and Snehota, 1995). Business relationships constrain the initiatives of the involved organisations, and in turn are shaped by them. It is an endless duality where networks provide both the impetus and momentum as well as resistance to an organisation's change initiatives but are also shaped as a result of these organisational initiatives. Therefore, applying the "living bodies" metaphor to business relationships, we see the dialectic relation but also the asymmetry between organisations and context. Organisations are embedded within a context, and thus cannot fully control it, they can only have an impact upon it. Managers often underestimate the importance of contextual contingencies and tend to believe that their ability to act is enough to overcome situational conditions. We posit that IMP research has not yet utilised the properties of this metaphor to its full extent, although important aspects of this asymmetry have been covered (e.g. Ford et al., 2003). ICT research on and using Actor Network Theory (Callon and Latour, 1981) that brings together these assumptions about networks, duality and asymmetry of context and organization, as well as the (analytical) symmetry of the technology and social context, could be used to explain complex business relationships.

Metaphor 3

Organisations as Flux and Transformation - ICT as Autopoietic Systems

While there are a number of organisational metaphors within this cluster, Walsham (1993) pulls out the autopoietic metaphor because of its relevance to ICT. This metaphor emphasises the self-referential nature of living systems and introduces the notion of the "circular organisation" (Maturana and Varela, 1980). As such organisations (and ICT) are closed systems and can only interact with their environment according to their (internal) organisation. The information that such organisations collect are, therefore, a reflection of the way that an organisation (or system) is structured to view the world rather than the way that the world "is". This can be seen as an essentially relativist view of the world.

Flux, Autopoietic Systems and Business Relationships

Applying the metaphor of autopoietic systems to business relationships, we point out the relevance of developing representation constructs (so-called meta-constructs) that make business interaction possible. The fact that organisations develop a reflection that renders their field of activity knowable and manageable, is vividly demonstrated in the IMP research by Johanson's and Mattsson's (1992) "network theory" concept and by Ford et al.'s (2003) concept of "network pictures" which share many features with Weick's (1995) notion of "sense-making". All three conceptual tools are retrospective in nature and contribute actively to the process of constructing a firm's identity. The notions of "network theory", "sense-making" and "network pictures", however, are general constructs that do not describe an organisation's unique and differential knowledge or "network insight" for the niche it occupies (Mouzas and Naude 2003). A "network insight" can lead to a differential advantage that is crucial for the growth and survival of an

organisation. Another application of this metaphor would suggest that organisations have to work on transcending their own boundaries. This requirement is a crucial point to understand business negotiations and bringing about an alignment of interests in a business network. It also highlights the importance of mediators or the presence of individual "translators" who are able to move between organisational word views and bring about some coherence and order to organisational interactions.

Metaphor 4

Organisations as Cultures – ICT as Social Systems

Smircich (1983) considers five streams of research on the notion of culture and their links to our conceptualisations of organisation (metaphors). Culture as a variable is linked to the mechanistic and organismic view of organisations. Culture is also used as a root metaphor for viewing organisations as shared knowledge; a system of shared meaning; an expression of the mind's unconscious operations. ICT have a role to play in the process of enacting and constructing reality and may thus be linked to the notion of culture (and subcultures) as a system of shared meaning. Recent increased interest in interpretive studies of ICT can be seen as contributing to that stream of research which is concerned with the interpretations of actors involved in the development and use of ICT (Walsham, 1995). Not surprisingly this metaphor suggests an interpretivist stance.

Cultures, Social Systems and Business Relationships

Using the metaphor of culture in studying business relationships we emphasise shared knowledge, shared meaning but also shared expectations. Organisations can have different

expectations from a business relationship, which might be acknowledged or implicit. For example, an organisation might expect from a business relationship the implementation of a series of discrete transactions, while the other side sees in the relationship the start of a new partnership. Fortgang et al. (2003) refer to the different expectations of how a business relationship will work in practice as the underlying and ongoing "social contract". They argue that a social contract has two sides. While the underlying social contract answers the question of the nature, extent and duration of a business relationship, the ongoing social contract answers the question of handling contingencies and resolving disputes. This metaphor has been used in IMP research in two different ways. The first way was to refer to the importance of social capital (Araujo and Easton, 1999) while the other was linked to the atmosphere of a business relationship (see interaction model, Michel, et al 2003).

This metaphor also links up with the point made earlier about organisations' ability to transcend their own boundaries and in many ways their own cultures. Therefore, when talking about interacting organizations, it seems important to recognise the existence of organisational subcultures. Nonetheless, it is equally important to recognise the presence of an overarching culture that draws its structures from the local context as well as "global business culture" (Walsham 2001). Conducting business relationships across geographical regions is perhaps a good example of such a situation where the local subcultures and the global culture do not necessarily coincide. What is considered good practice in one may be a huge affront in another. A sensitivity to such network complexities can only enhance our understanding and conduct of business relationships.

Metaphor 5

Organisations as Political Systems – ICT as Loose Networks

This metaphor sees organisations as "*loose networks of people with divergent interests who gather together for the sake of expediency*" (Walsham, 1993, p. 39). A focal interest here is the notion of power as "*the medium through which conflicts of interest are resolved*" (p. 39). ICT are implicated in changes in work, work roles, issues of control, organisational relationships and matters of surveillance and individual freedom of action. They can thus be seen as key areas for political action in organisations. In many ways this metaphor represents a critical realist standpoint.

Political Systems, Loose Networks and Business Relationships

In many ways the idea of organisations as political systems comes from the observation that organisations have different interests, goals and expectations. Business relationships are, therefore, essentially all about mobilizing networks of organizations (Mouzas and Naudé, 2003). Looking at network mobilization, we find the paradox that the demagogic network mobilizer might be seen to accomplish above average over a period of time. There is, however, an inherent danger that if the network horizon of the demagogic network mobilizer is too restrictive, they will end up losing the advantage. The democratic network mobilizer, on the other hand, controls less, but may be likely to capitalise more effectively on the resources and potentials of other organisations and thus may last longer. This paradox ties in with the network paradox that companies try to exercise control over the network but that control, if achieved, can be destructive (Ford et al., 2003). Overall, alignment of interests through business negotiations, an understanding of the various cultures and accepted ways of conducting business, as well as the

explicit and latent business agendas involved, would seem vital ingredients for the establishment and maintenance of successful business relationships.

Conclusions

In Table 1 below we summarise our major conclusions. As shown, we have examined five of the major metaphors that have been utilised within ICT, each of which is in fact associated with its own predominant epistemology. We indicate too how these relate to some of the major themes that have been discussed over the years by the IMP Group. In the final column we identify what we consider to be the most important lessons that we as IMP researchers might learn from using the particular metaphor. For example, we linked the Machine/Discrete Entity metaphor to the use of network diagrams, arguing that the use of this metaphor lay mostly in its ability to remind us of the dangers of taking too restrictive a view of the network's boundaries, and the need for a broader understanding of the network context. Similarly, the metaphor of cultures reminds us of the relevance of a "social contract" regarding the nature, extent, conflicts and duration of a business relationship.

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What are the broader lessons to be learned from examining the applicability of metaphors used in ICT to us as IMP researchers? We have argued that the research areas of IMP and ICT are isomorphic, i.e. they share similar characteristics in that researchers from both communities have used the network metaphor as a relevant paradigm. Based upon our discussion above, we finalise

the examination of the applicability of ICT metaphors to business relationships with two major conclusions.

The first relates to the relatively wider usage of metaphors within the ICT field. IMP researchers can utilise this rich diversity of metaphors as new intellectual lenses. For example, by using the metaphor of autopoietic systems researchers could look at how organisations develop representation constructs of their network that make business interaction manageable.

The second, and related, conclusion refers to our ontological assumptions and epistemologies that we employ to investigate business relationships. To date, IMP research has been influenced by the ontology of the network approach, with a growing awareness of the importance of understanding the extent to which there is an asymmetry of the contexts and organisations involved. As we seek to understand more fully the complex issues surrounding "network insight", the nature of the links and boundaries between the players involved, and the factors that are involved in mobilising the different network actors, it may be that we will find metaphors based upon different ontology and epistemologies yielding the more interesting results.

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Table 1
Salient Lessons to be Learned

Metaphor	ICT	IMP	Lesson
Machines Epistemology: Positivist	Discrete-Entity Models	Network Diagrams Focal Nets Strategic Nets	Importance of Context
Organisms Epistemology: Social Constructivist	Socio-Technical Systems	Networks of business relationships	Duality and Asymmetry of context and Organisation
Flux and Transformation Epistemology: Relativist	Autopoietic Systems	Network Theories Network Pictures	Network Insight
Cultures Epistemology: Interpretivist	Social Systems	Social capital Atmosphere	Social Contract
Political Systems Epistemology: Critical Realist	Loose Networks	Management in Networks	Network Mobilisation