Towards a Sociological Model of Organisational Memory

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Abstract

In their review of research on organisational memory, Walsh and Ungson [1] argue that the extant representations of the concept are fragmented and underdeveloped. It is argued that this is due, at least in part, to the dominance of psychological models of memory employed by organisational memory system theorists. In this paper it is argued that the development of a more sociological theory of memory not only helps us understand the roots of the present confusion surrounding the concept of organisational memory, but also enables the development of a more coherent theoretical model to guide research on the impact of computerisation on organisational memory. The political implications of this model are discussed. The paper concludes by arguing that the development of such organisational memory systems will create a significant technical design challenge to system designers and developers, not least because it calls into question the long-standing cognitive disjuncture between computer system designers and users.

1. Introduction

"Reengineering is about beginning again with a clean sheet of paper. It is about rejecting the conventional wisdom and received assumptions about the past. Reengineering is about inventing new approaches to process structures that bear little or no resemblance to those of previous eras” [2] p.49.

These words from the ‘gurus’ of Business Process Reengineering (BPR), extolling the virtues of forgetting the past and embracing the future, could have been written by any number of the management ‘gurus’ eager to sing the praises of information technology. Yet, Hammer and Champy’s work is noteworthy, not only because of its impact on management practice in the UK and US, but also because of the seemingly paradoxical nature of its message, namely that the call to forget (“obliterate”) the past is accompanied by a call to managers to embrace a key role for information technology as a facilitator of data storage and retrieval (i.e. memory). This paper examines this paradox through an analysis of the organisation as an assemblage of memories which are not restricted to human bodies alone, but which also reside in technologies and other organisational/cultural artefacts, discourses and practices. This analysis reveals how many management writers and researchers either ignore the concept of organisational memory entirely or regard it as a barrier to innovation and change. The paper makes the case for viewing organisational memory as a fluid and (re)constructive force within organisations. It is argued that the reasons why so many technological change initiatives fail in organisations may lie in management’s failure to grasp the key nature of memory and its importance for organisational functioning, survival and change. The paper concludes with a discussion of the implications for the design and development of computer-based organisational memory systems.

2. Organisational Memory

In their review of research on organisational memory, Walsh and Ungson [1] argue that the extant representations of the concept are fragmented and underdeveloped. One might also add that they are often contradictory. Theorists seem unable to agree (i) whether or not organisations have memories at all (e.g. Sandelands and Stablein [3] claim they do, whilst Argyris and Schon [4] argue that they do not); (ii) where organisational memory is located (e.g. O’Reilly, [5] claims it resides only in the minds of individual members, whilst Galbraith [6] places it in the organisation itself); or (iii) whether organisational memory is functional [7] or dysfunctional [8] in terms of organisational performance and adaptability to change.

Part of the reason for this confusion can be attributed to the dominance of psychological models of human memory which are utilised by organisational memory researchers, implicitly or explicitly, when looking at what is essentially a sociological construct [9]. The immediate problem confronting researchers on organisational memory is that psychological models of
memory locate memory in the brain. But this is not the only problem. Psychological models and theories tend to share an additional five basic assumptions about the nature, location and function of memory, namely: the use of technology as a metaphor for memory; a focus on the individual and personal nature of memory; the reduction of past events to more or less retrievable mental ‘facts’; the role of schematisation in memory loss (i.e. forgetting); and a hierarchical model of memory structure (see table 1).

Table 1 Psychological and Sociological Models of Memory

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Yet the foundations of a more sociological theory of memory, prioritising quite a different set of assumptions, have existed for over a century, and have more recently experienced something of a post-modern revival. In this paper it is argued that the development of a more sociological theory of memory not only helps us understand the roots of the present confusion surrounding the concept of organisational memory, but also enables the development of a more coherent theoretical model to guide research. This process begins with a critical appraisal of the five basic assumptions of psychological models of memory (outlined in table) from a sociological standpoint.

3. Theories of Memory: From Individual to Social Memory

3.1 Technology: From Metaphor to Memory Site

Memory may be defined as the faculty of retaining and recalling things past. From this very basic definition it follows that no distinction need be drawn between human and computer memory. Indeed, the historical development of theoretical accounts of memory has been heavily influenced by the available technology for recording and storing information. Plato [10], for example, used the wax tablet as a metaphor of memory whilst, in more recent times, psychologists have employed technologies such as the assembly line [11], the telephone switchboard [12], the hologram [13] and the computer [14] as the basis for their theorising about human memory.

Yet, very few psychologists would wish to argue that machines have memories or that human memory is a technical artefact. Rather, they draw parallels between the workings of human memory and those of sophisticated technologies and machines. Such technological metaphors have a long and venerable cultural history, perhaps because “technology has been so overwhelmingly successful that it serves for most people as the most creative metaphor for what they are” [15]. But the technological metaphor may be deceptive if not carefully delimited. Outside of the experimental laboratory, most psychologists see memory as an integral component of human cognition, understanding, emotion and wisdom; and thus quite distinct from non-sentient artefacts such as computer memory. Yet, in practice, many of them treat human memory as if it were a technical artefact [16]. In so doing, Lanier and Biocca (ibid) argue, they effectively engage in the “horrible substitution of information for human experience” (p.164).

The reason why such researchers fail to make the logical step of attributing memory to technology stems from their insistence that memory resides only in the brain. Indeed, Roediger [17] argues that virtually all psychological theories of memory are variations of a metaphor theme of mental space and storage, with recall generally regarded as a search through the contents of this space. It doesn’t seem to have occurred to these theorists that memories may be located outside the mental space between the ears and in other parts of the body (as well as to artificial extensions of the body), and yet still be an integral part of cognition, understanding, emotion and wisdom. However, a more sociological theory of memory does invite such a step to be taken. Whilst this may raise the sceptre of anthropomorphism, it serves to counter the mechanomorphism [18] associated with many psychological theories of memory.

Of course, not all psychologists have territorialised memory in the mental space of the human brain. Psychologists developing theories of situated action [19], activity theory [20] and social cognition [21], as well as ‘cyberculture’ sociologists [22] have seen fit to reterritorialise aspects of memory in the body and particularly in technological extensions of the body. From this perspective, our bodies, as organisms, are always unfinished. They require external supports and
extensions to complete and realise themselves. In applying this perspective to memory, two classes of external technical supports are identifiable. First, there are technologies and tools designed to improve the storage and retrieval of autobiographical events and experience (aides-memoire); and, second, there are technologies that (re)produce memories of events and episodes of which we have no personal bodily experience - the mass media of television and cinema being, perhaps, the most privileged site for the (re)production of such memories within Western cultures [23]. Lansberg [24] applies the term ‘prosthetic memory’ to the latter class of external support.

If one views memory as a means for closure - a strategy for authenticating ones past and validating experience - then the idea of prosthetic memory calls into question the very nature of the self and personal identity, as well as the possibility of possessing ones own memory as inalienable property. But memories are a generative force, and are less about authenticating the past than they are about organising the present and constructing strategies for the future. Memory is never entirely personal. It is part social and part personal. In and of itself, memory is simply subjective. At the same time, however, memory is structured by language, by teaching and observing, by collectively held ideas, and by experiences shared with others. The fact that most social experiences and interactions are mediated by technology (and often stored in prosthetic memories) suggests that memories are also part technological. We will examine the implications of this later in the paper.

3.2. From Individual to Social Memory

Our memories express the connectedness of our minds to our bodies, and our bodies to the social and natural world around us. Yet, historically, the notion of personal memory being socially constructed is one given little credence by the majority of psychologists studying memory. Interestingly, one of the founders of the experimental psychology of memory, Sir Frederick Bartlett, believed that the individual is always a social individual and that sociocultural influences selectively control cognition and memory [25]. The power of cultural convention to control perception and recall was initially Bartlett’s prime research problem [26]. However, he failed to develop these ideas, concentrating instead on the design of psychological experiments on individuals [27].

More recently, social scientists have taken a keen interest in memory as a site where social and personal identities are constructed. Whilst the majority of psychologists have tended to define memory as a product of the biological or cognitive processes of the individual, sociologists and social anthropologists [28] and some psychologists [29] have conceptualised memory as a social process whereby the past is represented in sociocultural forms.

For example, one of Durkeheim’s students, Maurice Halbwachs [30], argued that all memory is structured by group identities: that one remembers one’s childhood as a part of a family; one’s neighbourhood as part of a local community; and one’s working life as part of a factory or office community. In other words, the memories of individuals exist only in as far as they are (probably unique) products of a particular intersection of social groups. These memories become social through their articulation. Group members share an agreed version of the past thereby constructing their own images of the world. This social or cultural memory identifies a group or organisation, giving it a sense of its past and defining aspirations for the future. Such memories are articulated via a group’s oral history of stories and myths, through art, architecture, music and text, and as well as through prosthetic supports such as still photography, film, and television. In this sense, one might say that the culture of a group, organisation or community is defined by its social memory. Social memory is rarely held solely in living memory (in the minds of individuals) as it contains far too much information and collective experience for one person to remember without the aid of technical and cultural aides-memoires. As we shall see, this profound implications for the way one may view the design and use of organisational memory systems.

3.3. Past Events: From Reproduction to Reconstruction

Bannon and Kuutti [9] note that much of the psychological research on memory over the past 30 years has been heavily influenced by work in computer science. As a consequence, the idea that remembering is an active process involving reconstruction, elaboration and invention has been displaced by the notion of memory as a relatively passive data storage and retrieval facility.

Yet, in the 1920s and 1930s, many eminent psychologists stressed the (re)constructive nature of human memory. For example, Bartlett [27] argued that

“remembering is not the re-excitation of innumerable fixed, lifeless and fragmentary traces. It is an imaginative reconstruction, or construction, built out of
the relation of our attitude towards a whole active mass of organized reactions or experience, and to a little outstanding detail which commonly appears in image or in language form” (p. 115).

In this view, memories inform how we organise the present and construct strategies with which one might imagine a liveable future. Memory looks forward rather than backward. Memories of the past are fallible precisely because memory is reconstructive - the recall of memories represents the positing of an intelligible order to the past from the vantage point of the present [31]. Research on social memory conducted by sociologists and social anthropologists reveals how reality is (re)constructed as an outcome of shared memories rather than an input to their construction [32]. A few psychologists [33, 34, 35, 36] have argued that such a perspective should inform the psychological study of memory in which

“specific versions of events (and other things) are seen as socially produced outcomes, or accomplishments, of discourse, rather than neutral inputs to psychological processes, or as cognitive states that versions reveal” [37].

3.4. Forgetting: From Schematisation to Social Discourse

In the introduction to her monograph on memory, Mary Warnock [38] remarks that memory is the only human faculty that we accept as working normally when it malfunctions. Indeed, without the ability to forget, our minds would probably cease to function effectively [39]. Psychologists often employ the concept of schematisation to explain forgetting. This refers to the way in which people acquire schemata, or mental scripts, about repeated activities and actions. Schematisation begins in childhood where memories for specific events merge into general scripts or schemata which provide an organisational framework for recall. In the process details are usually lost. Schemata establish ‘horizons of expectation’ [40] which shape what we perceive and store in memory, as well as what we recall.

Psychologists suggest that we remember events and episodes relevant to what we are doing, or thinking about, in the present. But more sociologically minded researchers argue that schemata based on repeated activities and actions are almost always socially constructed. Schachtel [41] goes further and argues that as we are socialised much of what we remember is bound up with what we are supposed to remember, what the social order tells us is significant. Individuals in groups and organisations share similar horizons of expectation precisely because they socialised in a similar way. My own memories of historical events, for example, are dominated by information about military battles and the actions of royalty and state leaders. This bias exists because of the way history is (re)constructed by history book writers and school history teachers working in the social institutions and schools within which I was socialised. I learned which events and people were worth remembering. In this sense, the act of forgetting the myriad of other historical events and people is perpetrated by social institutions and discourses.

3.5. Structure: From Hierarchy to Assemblage

It is clear from the above that memory is a more complex affair than a simple storage and retrieval of ‘facts’. Our memories are shaped by our interactions with other people through the medium of technology, language and sociocultural discourse, all of which may be said to possess, or be possessed by, ‘other’ memories. Partly as a result of this complexity, sociological studies of memory are concerned more with how memories are used than in the internal structures of mental representations and recall. The latter has long been the preoccupation of psychologists who offer models of human memory structure which make theoretical distinctions between short-term and long-term memory; between different depths of processing; and between different kinds of memory (e.g. semantic versus episodic). These hierarchical cognitive structures are assumed to house personal memories located within a person’s nervous system. Such a concentration on internal structure overlooks the exteriority of memory, as well as the interconnectedness of personal, social and prosthetic memories in everyday life. If memory is simultaneously personal and social, inside and outside, a property of self and of other selves; and both medium and message, then an entirely different model of memory would seem necessary.

We could, of course, simply construct a model based on the idea of personal, social and prosthetic memories being located in different ‘storage bins’ (q.v. Walsh and Ungson, [1]). Whilst such a model reflects the hybrid and fragmented nature of memory (and may go some way to overcoming the theoretical fragmentation noted earlier), it does not do justice to the interconnectedness of such memory sites, nor the fact that each ‘storage bin’ contains memories of the others. From a sociological perspective, memory is less a structure than an ever-moving assemblage of memory fragments that are
reconfigured and reconstructed by different actors in a multitude of ways to serve a multitude of purposes.

4. Reconceptualising Organisational Memory

A more sociological conceptualisation of memory has been outlined which allows us to revisit the concept of organisational memory. Organisational memory may now be seen as an assemblage of fragments of three interrelated memory systems that are continually collected and recollected, constructed and reconstructed by human and non-human actors. These systems are:

**Personal memory** - memory for information about one’s past and autobiographical experience. Usually accurate but because memory is reconstructive in nature, this process is influenced by schematisation and socialisation and thus the specific details are often distorted or lost. Such memories comprise both tacit and articulated knowledge.

**Cultural memory** - an assemblage of social or collective memories which foster a sense of collective identity. Such memories are transmitted in a logical and articulate form and depend, in a general sense, upon the way in which a culture represents language to itself [42]. Cultural memories are collected and recollected in myths, stories, social ritual, normative rules of behaviour, texts, documents, icons, symbols and artefacts. The use, meaning and durability of cultural memories are dependent on how they are contextualised and interpreted within dominant social discourse.

**Prosthetic memory** - memories which do not come from a person’s lived experience in any strict sense. These are memories embedded in technology and ‘worn’ by people. The wrist watch and the electronic personal organiser are obvious examples, but such memories are also carried by tools, machines, and information and communication technologies. Prosthetic memories often reflect and shape elements of cultural memory in the sense that machines are purposive and prescribe elements of social behaviour in their use. But, they may also lead to a (re)construction of an organisation’s cultural memory. Information systems, for example, do not simply store information but can change those sociocultural interactions that define organisational institutions, sense-making processes, or power structures that enable the mobilisation of organisational resources [43].

These three memory systems are inextricably intertwined and it is this intertwining that forms the basic dynamic for the (re)production of organisational memory. As Tuomi [43] notes:

“Organisational memory, as a process where the past influences the present, can not be understood by simply focusing on the buffers that mediate this influence over time, but the influencing process itself needs to be considered as well” (p. 148).

To put it another way: if one represents organisational memory diagrammatically as three intersecting circles of personal, cultural and prosthetic memories continuously sliding across each other on a two dimensional plane, the interest of sociologists lies more in the analysis of movement and the changing nature of the intersections it produces, than on the structure and content of the circles themselves. The key research question thus becomes one of the motivity and mobility of memories within the assemblage, and how they are held in place long enough to confer an organisation with a sustainable, recognisable identity. We can illustrate these dynamics by considering the role of computer-based information systems in the (re)enactment of organisational memory.

5. Computerisation and Organisational Memory

This paper began with a seemingly paradoxical question of how business process re-engineering (BPR) can be facilitated by an erasure of organisational memory and the introduction of computer-based information systems. The paradox may be resolved by the application of the theoretical model outlined in the previous section. Essentially, Hammer and Champy [2] and others are recommending the displacement or reconstruction of an organisation’s cultural memory and employees’ personal memories through the deployment of prosthetic memory systems. This aligns BPR proponents with the historical development of technology and organisation in terms of the increasing pervasiveness of objective forms of knowledge through the ‘rationalisation’ of society [44]. In this context, technology has long provided a model for the pursuit of objectively efficient forms of organisation.

Since at least the time of the Industrial Revolution, the quantifiability, predictability and repeatability of machine technologies has been seen as the key to economic and social progress. Within such a social discourse, the prosthetic memories of machines continue to be seen as ‘better’ and ‘more reliable’ than personal memories, and virtually all aspects of business organisation have now been reconstructed and embedded
in prosthetics. Computer systems provide a core around which such a discourse can crystallise. This is possible because these systems are a particularly potent reconstructive force - they are 'linking' machines [45] that inherently affect the ways we think about linking up to each other, and hence our sense of personal and collective identity. Because such systems change the way we experience and understand ourselves and the world, they actively (re)construct cultural memory. Indeed, Winner [46] argues that technology has become so “woven into the texture of everyday existence” (p.12) that it is indivisible from social and cultural life.

In organisations the application of technology often depends on the prior emergence of organisational methods and control systems aimed at the translation of voluntary and subjective human action into the more ordered and objective texture of programmable rules and procedures [47]. It is in this sense that actor network theorists [48] argue that technology, and the technical rationality it embodies, may be seen as a means of making social organisation more durable. Herein lies a problem for developers of prosthetic memory systems, for the more formalised and structured the memory system, the more it will tend to support and reproduce existing organisational structures and practices. If business organisations were machines operating within a stable environment such conservatism would be of undoubted benefit. But, as management texts never cease to remind us, business environments are continually changing and this necessitates the development of organisational structures and practices that themselves continually change and adapt.

Tuomi [43] argues that the fundamental question about organisational memory systems concerns what should be remembered and what should be forgotten. From the perspective of psychological theories of memory, prosthetics permit perfect recall. But this would inevitably lead to information overload. However, from a more sociological perspective, computer-based prosthetic memories tend to decontextualise and formalise personal and cultural memories. This process is essentially one of forgetting as certain personal and cultural memories are reconstructed within a particular discourse of technical rationality. Thus, Winograd and Flores [49] argue:

“In using computers we engage in a discourse generated within distinctions set down by programmers. The objects, properties, and acts we can distinguish and perform are organized according to a particular background and pre-understanding. In most cases this pre-understanding reflects the rationalistic tradition [which] includes biases about objectivity, about the nature of ‘facts’ (or ‘data’ or ‘information’) and their origin, and about the role of the individual interacting with the computer. We have argued that tools based on this pre-understanding will lead to important kinds of breakdown in their use” (p.178).

Hammer and Champy believe the advantage of computerisation lies in the ability of prosthetic memories to change the way managers view and remember their organisations. But, if Winograd and Flores are right, this view is at best a partial one, and, at worst, an inaccurate reconstruction of organisational reality based around a discourse of technical rationality. The cognitive disjunction between technical designers and users is well-documented [50, 51] and may go a long way to explaining why so many BPR and technological change programmes fail. Whilst an organisation’s cultural memories are shaped and reshaped over time [52], prosthetic memories often ‘freeze’ past events as unbiased and objective facts.

In summary, we see how the historical (re)production of organisational memory has witnessed an increasing encroachment of prosthetic memory into cultural and personal memories. If writers such as Hammer and Champy are to be believed, developments in information technology now make possible the appropriation of cultural and personal memories by prosthetic technologies. Indeed, BPR change programmes within organisations are almost always accompanied by significant reductions in the number of employees (who share and (re)produce these cultural and personal memories). It is notable that Hammer and Champy, along with numerous other management gurus, explicitly state that information technology offers a powerful means for senior management to change an organisation’s culture.

6. Implications for the Design of Computer-Based Organisational Memory Systems

At first sight the preceding discussion would seem to suggest that computer-based prosthetic memory systems, far from facilitating perfect recall, may actually lead to a form of organisational amnesia in which only unambiguous information is coded and stored. These memories are then re-collected and recontextualised by organisational members located elsewhere and/or elsewhen. But users, settings, procedures and context change over time and, as Bannon and Kuutti [9] observe, the likelihood of system developers being able to characterise what kinds of information in an organisation
is potentially significant and worth keeping is an impossible task. Also, users actively make sense of information in relation to their personal memories and the cultural memories associated with the information domain. Thus, problems of interpretation inevitably arise in design and use. Indeed, Ackerman [53] acknowledges the problems involved in interpreting stored memories and advocates the restricted use of prosthetic memory systems solely in the domain of highly structured and unambiguous tasks.

The problem for developers of more broadly based organisational memory systems is that many organisational tasks are loosely structured and involve the interpretation of ambiguous information. Ultimately, what is needed are prosthetic memory systems which support the inherent equivocalness of personal and cultural memories, and which are sufficiently flexible and adaptable to enable their own active reconstruction and learning. This requires a deeper and more sociological understanding of how memory systems are used in organisations and an appreciation of their fluidity. It also represents a significant technical design challenge.

The fluidity and intertwining of personal, cultural and prosthetic memories suggest that computer-based memory systems should be fluid and able to buffer and communicate ambiguous knowledge. Ultimately, all members of the organisation should be able to appropriate such systems (rather than vice-versa). Interesting developments at AT&T Bell Labs on ‘living design memory’ [54] indicate a way forward here. The developers stress the evolutionary nature of memory and knowledge and the need to embed prosthetic memory systems in everyday organisational practice such that users ‘own’ the system. Similarly, developers of ‘human centred systems’ stress the need for open-ended systems design in which users and user groups can reconfigure and adapt computer systems to suit their own requirements, rather than having these requirements imposed upon them by technical designers [55]. This, of course, is not what management gurus such as Hammer and Champy have in mind in their proselytising. On the contrary, they concentrate on the potential for centralisation of management control over production opened up by computerisation. Yet, the sociological model of organisational memory systems presented above suggests that any attempt by executive management to control organisational memory is misguided and probably unworkable as it effectively ignores the social and political nature of organisational memory.

If developers of computer-based organisational memory systems are to bring a more sociological perspective to their work, then three key issues need to be addressed.

1. Who are the systems for and to what extent will system use empower some organisational groups and disempower others?

2. Are the prosthetic memories compatible with, and developed from, extant personal and cultural memories within an organisation, or do they merely contribute to a ‘freezing’ of these latter systems?

3. To what extent will users be able to appropriate the prosthetic memory systems?

If these issues are to be analysed then it is clear that the technical design process itself may need to be redesigned and this is probably the greatest challenge confronting computer-based memory system developers. As Winograd and Flores have noted, conventional computer systems design is enframed within a discourse of technical rationality which regards technology-in-use as relatively unproblematic and of secondary importance to design and implementation. Furthermore, the knowledge afforded by computer system use has a political dimension in so far as it reinforces the expert power of engineering and computer specialists at the expense of users and their support staff who possess a more pragmatic and subjective knowledge of technology-in-use. Yet it is clear from a sociological viewpoint that this subjective knowledge - embedded in personal and cultural memory, and condemned as ‘noise’ in conventional systems design discourse - has a major role to play in the development of organisational memory.

Within the dominant discourse of technical rationality which shapes and reflects the design and use of conventional computer systems, the solution of organisational ‘problems’ that computer systems often produce must be handed over to technical specialists, for it is they who are defined as possessing the technological efficiency to filter information, and to command what constitutes the appropriate knowledge that can be applied. We have already alluded to the inherent problems such a process creates. In this context, the key to the strategic development of prosthetic memory systems must unlock the technological frame which so often enframes design and use and open up the development process to a wider constituency. The experience of ‘human centred systems’ developers suggest that such a constituency should include users,
support staff, and social scientists as well as technical specialists [56].

Yet, user involvement in organisational memory systems does not guarantee that any resulting system becomes capable of buffering and communicating ambiguous knowledge. In organisations, knowledge and expertise are a power resource and vested interests often dominate decision-making. Developers of expert systems - so-called ‘knowledge engineers’ - often find themselves facing considerable resistance from the holders of the expert knowledge needed to inform the design of such systems. For example, medical practitioners, and many other professional and occupational groups, retain their power and influence in organisations precisely because their knowledge base is ambiguous and difficult to codify [47]. Attempts to embody this knowledge in computer-based prosthetic memory systems impinge on their sovereignty by codifying elements of this knowledge and ceding some of their expertise to others. In this sense we can see how personal and cultural memories of certain intra-organisational groups are highly politicised. In such cases user involvement would clearly be problematic.

The example above is pertinent to our discussion of organisational memory systems. Personal and cultural memories cannot easily be disembodied and re-embodied in prosthetics within organisations unless the social and political issues are carefully addressed and managed. Organisations and the practices and people within them are uniquely identifiable by the ways in which personal, cultural and prosthetic memories intertwine. But, ultimately, memories are a finite organisational resource and hence any attempts to increase the prosthetisation of personal and cultural memories (as in BPR initiatives) are often interpreted as a political act by organisational members and resisted as such.

In conclusion, then, we see that a more sociological model of organisational memory exposes the social and political nature of life in organisations. Unfortunately, perhaps, such a model also exposes the problems confronting designers, developers and managers of computer-based organisational memory systems. This paper does not pretend to have solutions to these problems, but I believe that we ignore them at our peril. User involvement in technological design is no panacea, but it may serve to place social and political issues much nearer the top of the design agenda. This is not an insignificant achievement. Research reveals that the main reason why so many technological change programmes, such as BPR, achieve only limited success in business organisations lies in the failure, on the part of technical designers and managers, to address and manage the very social and political issues raised in this paper [57, 58].

7. References


