

Re-contextualising Organisational Communication: A Material Perspective toward Communication

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Abstract

The significance of communication in organisational life has never been ignored by scholars. However, the rapid introduction of new technologies that change the way people relate to each other and their work processes has positioned communication as a centrally consideration in the pervasive change that has confronted organisations in the last few decades. The introduction of new technologies has also opened new and multidisciplinary research areas to scholars. While trying to avoid stereotypical conceptions, this paper intends to scrutinise organisational communication during change through a different lens; one that simultaneously examines material aspects of communication as they relate to a technological innovation and the social context in which this technology is supposed to operate. Focusing on technology, it demonstrates how a technology, in particular its material characteristics, impacts on communicational status and how this factor, in interaction with human agents, can be a major determinant in the effectiveness of communication in organisations.

Keywords: Organisational Communication, Materiality, Information Technology

The emergence of the 'Communicative Constitution of Organisation' (CCO) perspective introduced by Putnam and Nicotera (2008), and the discursive turn in social psychology that gave rise to it, have placed communication processes at the centre stage in organisations. It made communication a multidisciplinary subject (Ashcraft et al., 2009) and made scholars interested in more interdisciplinary dimensions of communication (Pratt and Rafaeli, 2006; Strati, 2006). The study of the materiality of organisation, and consequently the materiality of communication, is one of the interdisciplinary areas that emerged. Organisational scholars studying materiality argue that material objects and artifacts, including digital technologies, influence all aspects of organisational life, ranging from the organisation's identity and goals to people's behaviours and attitudes (Ashcraft et al., 2009; Rafaeli and Vilnai-Yavetz, 2004b).

Running alongside the transformation of the communication concept, the digital era, characterised by diverse information technologies, has posed new challenges for scholars of organisational studies. It has necessitated a reconsideration of many taken-for-granted concepts and theories which scholars had drawn on to explain the dynamics of organisational life for many years. In fact, it can be argued that information technologies have reconstructed many aspects of our lives, both personal and organisational, and that technology-driven change has changed our lives (Orlikowski and Iacono, 2001). Coupled to the changes heralded by new digital technologies has been growing recognition that, in organisations, these technologies have transformed the materiality of organising, changing the way collaborative action, and thus organising, is achieved (Zammuto et al., 2007). Consistent with this view, there is a plethora of studies confirming that the one aspect of organisational life which has been subject to more considerable change, due to technological advancements, is communication (Fountain, 2001). In fact, one could argue that the technologic alterations and developments have primarily impacted communication modality, forms, and tools (Grant and Meadows, 2012). Also, Orlikowski and Iacono (2001) maintain that technological innovations can have various influences on organisational relationships, such as causing changes in social roles, reevaluating the significance of hierarchies, and modifying organisational processes. They can also shift the course of communication towards different communicational tools and media.

However, Orlikowski and Iacono (2001) observe that even though technology has become the symbol of our age, has dispersed around us, and we take pride in it, we either do not take it

seriously enough or reduce it down to the level of reductionist clichés. In line with this observation, this paper intends to focus on the technology factor, while trying to avoid the stereotypical conceptions, and demonstrate how technology, in particular its material characteristics, impacts communicational status. It is motivated by the observation that only recently has materiality and its relationship with communication attracted the attention of organisational communication scholars. In particular, this conceptual paper addresses the interface between communication, materiality, and technology. It begins by reviewing the CCO literature and then examines what is known about how information technology contributes to organisational materiality and how this, in turn, shapes the way people communicate and make sense of their daily communication as well.

The author hopes to contribute to the organisational communication literature by elucidating these relationships and providing a case for (re)conceptualising technology innovation as a strategic action at the materiality-communication interface. It seeks to demonstrate how the mere implementation of technology in organisations is far from satisfactory if the change agents do not appreciate the interrelatedness of communication and materiality of applied technology.

The Constructive Perspective toward Organisational Communication

A founder of organisational communication studies, Chester Barnard (1947) argued that one of the elements which causes an organisation to come into being is the existence of people capable of communicating with each other. In fact, communication has always been an inseparable component of the organisation concept from the very outset of organisational studies. Although the definitions of, and perspectives toward communication have been the subject of changes during past decades, the significance of communication in an organisational context has never been underestimated by scholars and this critical notion has never lost its pivotal role for scholars of organisational life. In general, the early researcher of communication studies conceived of communication in instrumental and transactional terms (Axley, 1984), as a neutral medium through which people communicate with one another in ready-made contexts. More recently, scholars have come to see it as constituting organisational life (e.g., Alvesson and Karreman, 2000, Cooren et al., 2011, Cooren and Putnam, 2004; Putnam and Nicotera, 2008). From this

perspective, communication is construed as constructive of organisation, not only transferring shared meanings across the organisation, but also generating those meanings and accordingly the organisation itself (Ashcraft et al., 2009). As noted earlier, this perspective, known as CCO (Communicative Constitution of Organisation), has emerged on the back of the discursive turn in social science scholarship.

The underlying assumption of the CCO view, that communication not only operates as an instrument for organising but actually constitutes the organisation, has placed communication processes at the centre stage in organisations. However, it has not been sufficiently attended to in management studies and remains undertheorised. One reason for this is that the existing models in this perspective (i.e. the constitutive model) have focused more on the symbolic aspects rather than the material aspects of organising and the organisation. (Ashcraft et al., 2009). Ashcraft and his colleagues argue that although people bring organisation into existence through their communication, tangible material aspects such as architecture, artifacts, and technologies contribute to this construction. In other words, it can be argued that organisational communication is conducted through real bodies and machines. In light of this perspective, Ashcraft and his colleagues have emphasised that ‘the next generation of CCO and management theory need more sophisticated treatment of the material–symbolic relation’ (Ashcraft et al., 2009: 26).

The Notion of Technology

Perspectives on technology in organisational studies have shifted from totally ignoring technology to seeing it as a social-material constructive element in organisational life. Orlikowski (2010) noticed four perspectives in the extant management literature on the role of technology. She observed that early in management studies, the technology – even materiality in general – and its impacts were totally ignored. Orlikowski called this perspective “absent presence”, which points to the absence of any consideration of technology even though it is “everywhere to be found in organisational life” (Orlikowski, 2010: 128). In the second perspective, appearing in the late 1950s and 1960s, technology came to scholars’ attention as an “exogenous force” that has its own independent effect on organisational change. In this perspective, technology was considered as hardware with definite and predictable effects on organisation. Later, technology shifted from an external and abstract force to an “emergent

process”, arising from humans’ interpretations and interactions over time. Scholars with this perspective deemed technology to be a socially constructed phenomenon that should be understood based on historical and cultural context, or people’s interests and activities. Orlikowski (2010) goes one step further and introduces a phase in the development of our view of technology that she terms “entanglement in practice”. She does not consider technological and social factors as independent or separate, but rather as a conflated component, and argues “technological artifacts should be treated symmetrically to the humans” (Orlikowski, 2010: 135). The latter perspective has been the focus of attention among management scholars in recent years. In fact, the concept of “sociomateriality” in late managerial literature arises from this kind of perspective, which indicates mutual and equivalent interaction between social and material factors (Barad, 2007; Suchman, 2006).

Materiality per se refers to the physical and corporeal aspects of a phenomenon. It can refer to the physical presentation of a person (Rafaeli et al., 1997), an object (Ashcraft et al., 2009) or a setting (Bakke and Bean, 2006; Wener, 1985). Gumbrecht (2004) also defines materiality as what we perceive during our interaction with the objects and technologies. In organisational studies, the concept of materiality emphasises material and corporeal aspects of organisation, including organisation objects, sites, bodies (Ashcraft et al., 2009), buildings (Yanow, 1998), or even technologies (Leonardi, 2010; Leonardi and Barley, 2008) which can affect organisation objectives and identity (Ashcraft et al., 2009), as well as employees’ behaviour and attitudes toward organisations (Rafaeli and Vilnai-Yavetz, 2004a). Therefore, the relationship between materiality and organisation is one the significance of which many organisation scholars have come to acknowledge (Ashcraft et al., 2009; Dale, 2005).

When it comes to technology, materiality refers to certain technology properties that enable the users to carry out some sort of action. According to Pickering (2001), when we call something material, we are stressing its ability to be performed or, namely, its “performativity”, the idea that it can provide users with capabilities that they can tap into to achieve their aims (Pickering, 2001). The material features which may provide this performativity can be keyboard or monitor hardware, which provide feasibility of communication (Leonardi, 2010), or “system configurations, infrastructures, bandwidth, interfaces, accessibility, standards” (Orlikowski and Iacono, 2001), or technical features of a software like “an electronic transaction or a user ID-

linked authorization” (Volkoff et al., 2007). Likewise, Leonardi (2010) emphasises this concept by stating that “perhaps what matters most about an artifact is not what it’s made out of, but what it allows people to do” (Leonardi, 2010: 7). Leonardi and Barley (2008) also discuss that materiality should be taken into account for theories of technology and organising, since the “material properties of artifacts” put up the new fashions of performing old tasks and provide the opportunity of doing what was not previously possible to do.

Furthermore, since the development and usage of any information technology (IT) artifact is carried out through human agency, the artifacts cannot stand alone and remain free from the value systems, personal interests, and the assumptions of people involved with them. Moreover, there is always some temporal, physical, discursive, and social context in which IT artifacts are embedded. Therefore, the historico-cultural facets of their perpetual utilisation and development shape and define their materiality, and their significance cannot be taken for granted, underestimated, or abstracted (Orlikowski and Iacono, 2001).

Other scholars also point to another issue which highlights the connection between social and material aspect of technology. Leonardi (2010) proposes that affordances of a technology depend on people’s perception, rather than any objective reality. Orlikowski (2000) also asserts that as long as the material attributes of a technology are not perceived as functional by its end users – even though such attributes exist independently regardless of the people who use or interpret them – we cannot imagine a considerable role for technology to play in organising.

In a similar vein, Norman (1999) has suggested the technology designer needs to care “more about what actions the user perceives to be possible than what is true” (Norman, 1999: 39) and other scholars such as Boczkowski and Lievrouw (2008) and Jian (2007) advise that people who are involved with implementation of a technology should pay more attention to the questions of ‘how’ and ‘why’ people come to a conclusion about performativity of technology.

Therefore, the affordance and frames technology may provide its users with, by virtue of their technical properties, can affect the way users experience that technology. The users’ experiences, are, in turn, a key factor in defining whether or not that technology can operate successfully in an organisation (Orlikowski and Iacono, 2001). In fact, those researchers who consider technology as an ‘exogenous force’ have been criticised for overlooking and underestimating the role of

history, social context, and human agency during the development and employment of technology (Orlikowski and Iacono, 2001), as well as for downplaying the dynamic and situatedness of the materiality that creates technologies. They are criticised for the belief that all technologies are static, independent, predictable, have fixed and similar natures, and operate as intended and designed across time and place (Orlikowski, 2007).

The treatment of technology as an emergent process has also been a matter of controversy. While this view tends to contextualise the generation and utilisation of technology within socio-cultural and historical domains, there is a contention that it diminishes the role of technology and in particular downgrades the physical features that the technological artifact involves (Faulkner and Runde, 2009). Not only does the foregoing view avoid objectifying technology, it also undermines particular technological characteristics and prioritises individual perceptions and social responses (Orlikowski, 2010).

Leonardi and Barley (2008), Volkoff et al. (2007), and Orlikowski (2007), for example, have criticised views that only focus on either the material or the social factors of technology but not both. They argue that these two factors are inextricably interrelated and being inclined to focus on either social or material aspects prevents researchers from considering artifacts' 'affordance' and 'constraints', as well as people's impact into the process of utilising technology benefits.

Materiality of Communication Technology

The materiality of applied technology can impact on organisational communication; and the interaction of the materiality concept and communication technology can be presented by scholars' in their research in different ways. The hardware and physical equipments are "the most tangible part of technology" (Grant and Meadows, 2012: 3) and they come to mind most readily when we talk about materiality. These provide a physical instrumentality that creates the possibility of communicating for organisations. Also, new innovations often originate from new hardware (Grant and Meadows, 2012). However, as Grant and Meadows (2012: 5) note, "technologies are not adopted, just because they exist". Users must have sufficient and reasonable motivation to employ a particular communication technology. These authors argue that what a communication technology brings to the organisation is not just a matter of the hardware itself, but also the associated development of organisational levels around those

subjected to the technology change. In other words, material objects and human agents in organisations are inextricably interlaced, to the extent that changing one invariably changes the other and the communication associated with it (Ashcraft et al., 2009).

The introduction of new technologies into an organisation provides various affordances for users, and changes organisational elements including communication patterns and social networks. For example, new digital communication mediums enable organisation members to transmit ‘social presence, social context, and information richness’, which will, in turn, change effectiveness and communication behaviour (Orlikowski and Iacono, 2001).

Some scholars have theorised about the significance of material features in organisational members’ choices of organisational communication channel (Salmon and Joiner, 2005). Media features theory (MFT) addresses the material features of communication by emphasising “functionality” and “usability”, as well as the “ease of use” of communication channels (El-Shinnawy and Markus, 1998). The term functionality describes various ways in which users can utilise communication technology in achieving their aims. A system is deemed functional as long as it enables the users to communicate a message that is precise, complete, and to the point (Swanson, 1987). Usability, on the other hand, is the degree to which the medium of communication makes the “clear and readable” transference of a message possible (Larcker and Lessig, 1980). It refers to the extent to which a medium can transmit helpful, significant, beneficial, or appropriate information. (Swanson, 1987). Another criteria which is pointed out in MFT is ease of use. Despite the two previous features which merely indicate the materiality of communication channels, ease of use takes the role of human agent into account. It describes the effort that the utilisation of the medium demands. The more user-friendly a medium is, the more readily it will be embraced by users, and vice versa. (Davis, 1989).

A variety of communication channels - including face to face contact, telephone calls, emails, and written documents - are available to organisations, which they utilise for the purpose of transmission and reception of their required information (Salmon and Joiner, 2005). Based on the media feature theory, some scholars such as Salmon and Joiner (2005) and Markus (1994) have conducted a survey to test some of these channels and have concluded that material aspects of a communication technology have a determining role in choosing communication channels. For example, they found out that the usability features of email are the main reason behind

managers' preference of them over telephone; the technical features of email that provide the possibility of documentation, printing, filing, and referencing which are not possible via telephone.

El-Shinnawy and Markus (1998) have also found that functionality, usability, and ease of use have a major influence on media choices. They examined voice mail and electronic mail as communication tools within organisations and explained that organisation members generally prefer email, because of its efficiency in organising, forwarding, and referencing group messages without too much cognitive overload and because it is perceived to be user-friendly as well. They conclude that communication technology features play a significant role in human behaviour construction. However, by getting to know and remaining conscious of the way technology influences our lives, and why we allow it to change our lives, we can moderate its potential adverse effects (El-Shinnawy and Markus, 1998).

Another perspective on the impact of organisational process technology including communication is that technology and its material attributes may limit or extend what is possible, or motivate people toward specific organisational behaviours. It may provide fresh ways of doing things or restrict or change the way organisational processes used to be conducted (Grant and Meadows, 2012; Volkoff et al., 2007).

The mediation of material aspects of technology in the process of organisational communication has been noted by Volkoff et al. (2007). Their study demonstrates a process in which the “ostensive aspect” of organisation elements assumes a material appearance, which is embedded in technology, and elaborates how these material aspects affect the “performative aspect” of that element. Defining ostensive aspects as the “abstract, generalised idea of the routine, or the routine in principle”, (Feldman and Pentland, 2003: 101) means that ostensive aspects guide actors and enable them to account for or refer to their performances. By contrast, performative aspects are believed to help create, maintain, and modify the ostensive aspect, which in fact is “routine in practice” (Feldman and Pentland, 2003: 101). They also direct actors and empower them to assume responsibility for their performances. They describe how, in general, these two aspects interact with each other and how the material aspect of technology (e.g., an electronic transaction) confines the interactions between these two aspects. They argue that the material aspect impacts on the way people interpret the ostensive aspect, as well as the manner they

would apply it to perform their tasks. Volkoff and her colleagues (2007) explain that as changing technology features post-implementation is a difficult task, when users confront material aspects of technology features which do not match their expectations, they are likely to attempt to adapt themselves to this materiality. They may attempt to work around rather than confront the technology, they may redefine their interpretation of the right way of doing things, or they may ask for the technology to be tailored to their needs.

The final perspective on the materiality of communication that I wish to discuss is the concept of boundary object which is not a feature of the technology itself but rather a concept that captures how technology can function in use (Doolin and McLeod, 2012; Gal et al., 2008; Howard-Grenville and Carlile, 2006; Østerlund, 2008). Boundary objects are artifacts that share required meaning and knowledge among different parties in a project (Star, 2010). They can be “engineering sketches and drawing” (Henderson 1991), “measurement artifacts” (Howard-Grenville and Carlile 2006), and models (Gal et al., 2008) that facilitate the transference of knowledge or understanding. They are artifacts that can be used by parties with different purposes (e.g., the accountant approaches an invoice with different objectives to the staff member who issued it). Thus, boundary objects serve to stabilise the boundaries between two parties, making the coordination of their activities possible. The concept of boundary object reminds us that in order understanding communication technology in action we also need to recognise that the performances and associated experiences of communication technology end-users may vary because their objectives are not the same.

The technology of communication, like any other technology, is a social-material interwoven phenomenon. Hardware, its technical features, and the performativity of technology are the foundations that make communication using such technology possible. However, it is the human agents who decide to adopt (or not adopt) that technology based on their perception. They decide the degree to which they reform their way of communicating in light of their assessment of the affordances of the technology and their comfort with using it. In my view, the introduction of new technology of communication and its subsequent use would occur effectively, if the subjectivities associated with the interface between hardware and the user are given more consideration.

Conclusion

In this paper, I have argued that in the technological era, when much of what is carried out in organisations occurs in the virtual world made possible by digital technology, organisations have no choice but to consider the material and social aspects of technology at all stages of a technology implementation, from when they are developing and articulating an IT strategy through to the implementation and modification stages of installing that technology. They have to ensure that the interplay between the material and social dimensions of communication is not overlooked. To achieve this goal, we need to comprehend and redefine the concept of organization to incorporate a materiality perspective as created and sustained by communication. This paper has attempted to provide a rationale for rematerialising the notion of organisation constituted by communication (CCO), by conflating the materiality of information technology with the organisational communication associated with its implementation. It argues for the inseparability of material and social dimensions of organising, something that has been largely ignored, taken for granted, or underestimated by scholars and practitioners. In particular, the material aspect of communication technology is a dimension that has remained in darkness. We cannot allow this to continue as, even if we are not conscious of it, technology is embedded in our lives nowadays and its materiality circumscribes our daily activities. The time has come for a thorough scrutiny of materiality by scholars to find out how material features of technology mediate in organisational process and to establish what explicit or implicit changes it can bring to organisations. The changes that take place when introducing and using communication new technology in organisation, encompass organisational processes and people's minds and behaviours. Applying this perspective would help scholars, managers, and those involved with technology development to better understand the impact of technology, drive changes and prevent deviation from the planned and optimal path.

References:

- Alvesson, M., and Kärreman, D., 2000, 'Taking the Linguistic Turn in Organizational Research: Challenges, Responses, Consequences.' *The Journal of Applied Behavioral Science*, vol. 36, no. 2, pp. 136-158.
- Ashcraft, K. L., Kuhn, T. R. and Cooren, F. 2009. 'Constitutional Amendments: "Materializing" Organizational Communication', *The Academy of Management Annals*, vol. 3, no. 1, pp. 1-64.
- Axley, S. R., 1984, 'Managerial and organizational communication in terms of the conduit metaphor', *Academy of Management Review*, pp. 428-37.
- Bakke, J. W., and Bean, C. J., 2006, 'The materiality of sensemaking', *Tamara Journal*, 5:5.3, pp. 51-69.
- Barad, K., 2007, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*, Duke University Press Books.
- Barnard, C. I., 1947, *The Functions of the Executive*, Harvard University Press, Cambridge, Massachusetts.
- Boczkowski, P., and Lievrouw, L., 2008, 'Bridging STS and communication studies: research on media and information technologies', *New Handbook of Science and Technologies Studies*. MIT Press, Cambridge.
- Cooren, F., Kuhn, T., Cornelissen, J. P., and Clark, T., 2011, 'Communication, organizing and organization: An overview and introduction to the special issue', *Organization Studies*, vol. 32, no. 9, pp. 1149-1170.
- Davis, F. D., 1989, 'Perceived usefulness, perceived ease of use, and user acceptance of information technology', *MIS Quarterly*, pp. 319-40.
- Doolin, B. and McLeod, L., 2012, 'Sociomateriality and boundary objects in information systems development', *European Journal of Information Systems*, vol. 21, no. 5, pp. 570-86.
- El-Shinnawy, M., and Markus, M. L., 1998, 'Acceptance of communication media in organizations: richness or features?', *IEEE Transactions on Professional Communication*, vol. 41, no. 4, pp. 242-53.
- Faulkner, P., and Runde, J., 2009, 'On the identity of technological objects and user innovations in function', *Academy of Management Review*, vol. 34, no. 3, pp. 442-62.
- Feldman, M. S., and Pentland, B. T., 2003, 'Reconceptualizing organizational routines as a source of flexibility and change', *Administrative Science Quarterly*, vol. 48, no. 1, pp. 94-118.
- Fountain, J. E., 2001, *Building the virtual state: Information technology and institutional change*. Brookings Inst Press.
- Gal, U., Lyytinen, K. and Yoo, Y., 2008, 'The dynamics of IT boundary objects, information infrastructures, and organisational identities: the introduction of 3D modelling technologies into the architecture, engineering, and construction industry', *European Journal of Information Systems*, vol. 17, no. 3, pp. 290-304.
- Grant, A. E., and Meadows, J. H., 2012., *Communication Technology Update and Fundamentals*, Taylor and Francis, Hoboken.
- Gumbrecht, H. U., 2004, *Production of presence: what meaning cannot convey*, Stanford University Press, Stanford, California.
- Henderson, K., 1991, 'Flexible sketches and inflexible data bases: Visual communication, conscription devices, and boundary objects in design engineering', *Science, Technology and Human Values*, vol. 16, no. 4, pp. 448-73.
- Howard-Grenville, J. A., and Carlile, P. R., 2006, 'The incompatibility of knowledge regimes: consequences of the material world for cross-domain work', *European Journal of Information Systems*, vol. 15, no. 5, pp. 473-85.

- Jian, G., 2007, '"Omega is a Four-Letter Word": Toward a Tension-Centered Model of Resistance to Information and Communication Technologies', *Communication Monographs*, vol. 74, no. 4, pp. 517-40.
- Larcker, D. F., and Lessig, V. P. 1980. 'Perceived Usefulness of Information: A Psychometric Examination*', *Decision Sciences*, vol. 11, no. 1, pp. 121-34.
- Leonardi, P. M., 2010, 'Digital materiality? How artifacts without matter, matter', *First Monday*, vol. 15, no. 6.
- Leonardi, P. M., and Barley, S. R., 2008, 'Materiality and change: Challenges to building better theory about technology and organizing', *Information and Organization*, vol. 18, no. 3, pp. 159.
- Markus, M. L., 1994, 'Electronic mail as the medium of managerial choice', *Organization Science*, vol. 5, no. 4, pp. 502-27.
- Norman, D., 1999, 'Affordance, conventions, and design', *Interactions*, vol. 6, no. 3, pp. 38-43.
- Orlikowski, W. J., 2000, 'Using Technology and Constituting Structures: A Practice Lens for Studying Technology in Organizations', *Organization Science*, vol. 11, no. 4, pp. 404-28.
- Orlikowski, W. J., 2007 'Sociomaterial Practices: Exploring Technology at Work', *Organization Studies*, vol. 28, no. 9, pp. 1435-48.
- Orlikowski, W. J., 2010, 'The sociomateriality of organisational life: considering technology in management research', *Cambridge Journal of Economics*, vol. 34, no. 1, pp. 125-41.
- Orlikowski, W. J. and Iacono, C. S., 2001, 'Research Commentary: Desperately Seeking the "IT" in IT Research -A, Call to Theorizing the IT Artifact', *Information Systems Research*, vol. 12, no. 2, pp. 121-34.
- Østerlund, C., 2008, 'The materiality of communicative practices', *Scandinavian Journal of Information Systems*, vol. 20, no. 1, pp. 7-40.
- Pickering, A., 2001, 'Practice and posthumanism', in T. R. Schatzki, K. K. Cetina and E. v. Savigny (eds), *The practice turn in contemporary theory*, pp. 163-74, Routledge, London.
- Pratt, M. G. and Rafaeli, A., 2006, *Artifacts and organizations: Beyond mere symbolism*, Erlbaum.
- Putnam, L. L. and Cooren, F., 2004, 'Alternative perspectives on the role of text and agency in constituting organizations', *Organization*, vol. 113, pp. 323-333.
- Putnam, L. L. and Nicotera, A. M., 2008, *Building theories of organization: The constitutive role of communication*, Routledge, New York.
- Rafaeli, A., Dutton, J., Harquail, C. V. and Mackie-Lewis, S., 1997, 'Navigating by attire: The use of dress by female administrative employees', *Academy of Management Journal*, pp. 9-45.
- Rafaeli, A., and Vilnai-Yavetz, I., 2004a, 'Emotion as a connection of physical artifacts and organizations', *Organization Science*, pp. 671-86.
- Rafaeli, A., and Vilnai-Yavetz, I., 2004b, 'Instrumentality, aesthetics and symbolism of physical artifacts as triggers of emotion', *Theoretical Issues in Ergonomics Science*, vol. 5, no. 1, pp. 91-112.
- Salmon, S., and Joiner, T. A., 2005, 'Toward an Understanding Communication Channel Preferences for the Receipt of Management Information', *Journal of American Academy of Business, Cambridge*, vol. 7, no. 2, p. 56.
- Strati, A., 2006, 'Organizational artifacts and the aesthetic approach', in *Artifacts and Organizations. Beyond Mere Symbolism*, pp. 23-39.
- Suchman, L., 2006, *Human-machine reconfigurations: Plans and situated actions*, Cambridge University Press.
- Swanson, E. B., 1987, 'Information Channel Disposition And Use', *Decision Sciences*, vol. 18, no. 1, pp. 131-145.
- Volkoff, O., Strong, D. M. and Elmes, M. B., 2007, 'Technological embeddedness and organizational change', *Organization Science*, vol. 18, no. 5, pp. 832-848.

Wener, R. E., 1985, 'The environmental psychology of service encounters', *The service encounter*, pp. 101-112.

Yanow, D., 1998, 'Space Stories Studying Museum Buildings as Organizational Spaces While Reflecting on Interpretive Methods and their Narration', *Journal of Management Inquiry*, vol. 7, no. 3, pp. 215-239.

Zammuto, R. F., Griffith, T. L., Majchrzak, A., Dougherty, D. J. and Faraj, S. 2007, 'Information Technology and the Changing Fabric of Organization', *Organization Science*, vol. 18, no. 5, pp. 749-762.