Editorial

Moving Face-to-Face Communication to Web-Based Systems

1. Introduction

People are increasingly seeking to use the Web to carry out activities that were traditionally conducted through face-to-face communication. From the perspective of this Special Issue this change in communication channel raises two noteworthy issues. First, Web interfaces are in effect emulating traditional human roles. We see this across a diverse range of e-applications (and typical roles performed) including: e-commerce (e.g., salesperson/financial adviser); e-government (e.g., welfare/tax security officer); e-health (e.g., doctor/counsellor); and e-learning (e.g., trainer/teacher). Secondly, despite the faceless nature of the interaction and the absence of nonverbal cues, people still respond socially to Web interfaces. This suggests that although Information and Communication Technologies (ICT) such as the Internet offer an alternative channel for communication, people's general expectations of face-to-face communication may be carried over to online environments. This signals a need for researchers and practitioners to understand the ways in which communication has been conducted traditionally, how and why new media attract users and what these media might offer when face-to-face communication is moved online.

In this Special Issue, we examine the effects of moving face-to-face communication online. We propose that the focus should be on communication as a starting point for

understanding both the technological and social implications of the use of new media, which can be analysed on different communication levels of computer-supported activities (e.g., societal, organisational, group and individual). On a societal level, communication and the production and exchange of information are crucial to modern day life, especially if we subscribe to the concept of the 'information society', as proposed by major social theorists such as Castells (1996). In brief, this position argues that society has influenced the shaping of technology and its use; the ever-growing need for tools to facilitate communication has evolved from the telegraph to the Internet and the creation of a cyber society and virtual communities. The rise of the Internet has had a reciprocal influence on the shaping of society with the movement of face-to-face communication to, for example, Web-based systems, thus creating new ways for humans to act on the level of the individual, group and organisation. The Internet has become a crucial source of information, which can be used for communication in many different contexts from retail to education. Understanding the needs that electronic communication must meet in order to produce positive experiences for people in these different contexts still proves challenging. The aim of this Special Issue is to address this challenge and contribute to ideas in the theory and practice of moving face-to-face communication to Web-based systems.

2. Moving face-to-face communication to Web-based systems

Nearly 40 years ago, a prediction was made that: "in a few years, men will be able to communicate more effectively through a machine than face to face" (Licklider and Taylor, 1968, p.24). The development of ICT and research into computer-mediated communication (CMC) underpins the move from face-to-face to online communication, but this change in channel is not fully understood in terms of the way

that information is being exchanged. One reason for this may relate to perceptions of our society and the current vigorous debate around various concepts of 'e-society', 'information society', 'information economy', and 'interaction society' (Castells, 1996; Webster, 2002; Wiberg, 2005). In much of the world, information abounds and takes a wide range of forms; the supply and diffusion of information has been stimulated by the advent of the Internet (Rasanen, 2006). The Internet permeates all sectors of society (e.g., commerce, government, healthcare and education) and in so doing has changed the way that we interact with each other and with the technology. Moving face-to-face communication to Web-based systems has resulted in a huge availability of information (as brought to us by the Internet), which means that information-seeking has become a primary activity (Savolainen, 1999), so much so that we could say that our online activities have transformed many of us (with access to ICT) into *information consumers*.

The notion of users as consumers is not new (see Atkin, 2002), but is not one that has ingrained itself very deeply in research agendas. To explain what we see as a shift to information consumerism, we can apply ideas from studies in consumer behaviour (Engel et al., 1995). As information consumers we establish what our needs are, we search for information, we evaluate the information and we make a decision based on our information consumption. The key to understanding the information consumption process in an online context is communication, as the Internet is reshaping the way that information is being produced and exchanged. However, there are mixed reports of the effectiveness of online versus face-to-face communication for various purposes (e.g., Neuhauser, 2002), meaning that the improvements that moving face-to-face communication to Web-based systems may bring have still not been qualified. For

example, we still do not fully understand: people's choice of media for a given purpose; the contexts in which electronic communication seems straightforward and others where it proves more difficult; and the 'relationship' between the consumer and the interface during interaction. Accordingly, we propose a model for understanding these issues, in what we conceptualise as the information consumer communication process.

3. A model of information consumer communication

The model (shown in Fig 1) is based on the consumer consumption process proposed by Engel et al. (1995) who identified five stages: 1) Need recognition; 2) Information search; 3) Evaluation of alternatives; 4) Purchase decision; and 5) Post-purchase behaviour. We suggest that these stages are useful in understanding both the face-to-face and the online information consumer communication process. However, to make the stages in the original consumption process applicable to contexts other than commerce, and to reflect consumers' information-seeking as the primary activity, we have renamed stages 3, 4 and 5 as follows: 3) Evaluation of information; 4) Information search outcomes; and 5) Post-information search behaviour. The stages of the model highlight the multi-dimensional nature of the information consumer communication process (as it occurs face-to-face and/or online). The papers in this Special Issue contribute to the understanding of multiple aspects of this process and are discussed next in relation to the stages of the model (some of the stages are jointly discussed to reflect their inter-relatedness, see sections 3.1 and 3.3).
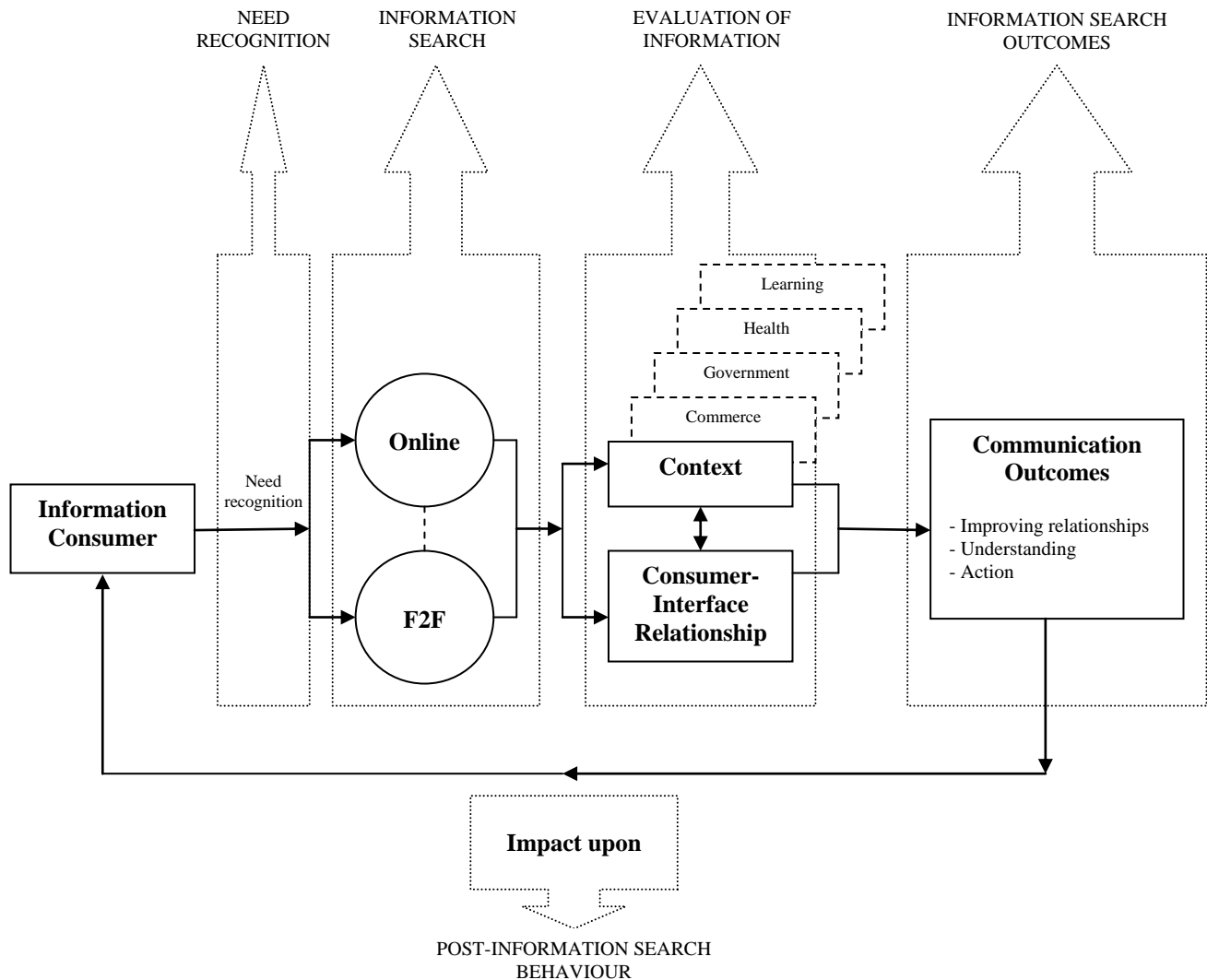
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NEED RECOGNITION

INFORMATION SEARCH

EVALUATION OF INFORMATION

INFORMATION SEARCH OUTCOMES

Learning

Health

Government

Commerce

Online

F2F

Information Consumer

Need recognition

Context

Consumer-Interface Relationship

Communication Outcomes

- Improving relationships
- Understanding
- Action

Impact upon

POST-INFORMATION SEARCH BEHAVIOUR

Fig. 1. A model of information consumer communication (based on the consumption model of

Engel et al.)

3.1. Need recognition and Information search

As an information consumer, we establish a need for a particular product and/or service. This need may be recognised before and/or during information searching using one, or a combination of communication media (e.g., face-to-face/online); hence the inter-relatedness between the first two stages. Face-to-face communication is viewed as the 'richest' medium (Daft and Lengel, 1986). However, the advent of the Internet has meant that information can now be communicated through its multimodal capabilities (voice, text, video, etc.). Numerous studies have been conducted to explore the similarities and differences between traditional and online

communication channels (e.g., Bordia, 1997). For example, studies across the contexts of e-commerce, e-learning, e-health and e-government have, respectively, highlighted the following diverse issues: Gupta et al. (2004) found that people's purchasing decisions and their channel switching behaviour were related to product search and experience attributes; Neuhauser (2002) found that there were no real differences in academic achievement where the same course was delivered online and face-to-face; Katz and Moyer (2004) suggested that the use of email is not ideal for communication within healthcare (e.g., for security reasons), although other Web-based communication tools could be more appropriate; and Warkentin et al. (2002) described an online tax collection initiative intended to replace completely postal communication, thereby limiting media choice for citizens. Given this research background, there is still a need to understand further how the similarities and differences affect outcomes of communication (as depicted in Fig. 1) so that the benefits of using one channel over another can be properly evaluated. Consequently, the contents of this Special Issue contribute to the understanding of the information consumer communication process, at the need recognition and information search stages, in the following ways.

The paper by Van Dijk et al. compares people's use of a variety of different media (e.g., face-to-face, mail-order, telephone and the Internet) and their channel switching behaviour in the process of making travel arrangements. The paper by O'Kane and Hargie focuses on the use of a communication tool (email) and the implications of this replacing face-to-face communication. The paper by Sillence et al. describes a short-term study of the use of healthcare Websites to search for information on medical conditions (e.g., hypertension); this is followed by a longer-term study that

investigates the patients' choice of media (online/real-life) to follow-up their findings. The paper by Cyr et al. concentrates on the characteristics, or combination of characteristics (e.g., text, images, chat facility, ability to read/write reviews), of a Website and its effects on the information search for concert tickets.

3.2. Evaluation of information

This stage of the information consumer communication process is concerned with the consumers' requirements of the context (and associated tasks) and the relationship created during consumer interface (which could be a person and/or a Website) communication. Information consumer communication occurs in a variety of contexts and associated relationships, including commerce (e.g., salesperson-client), government (e.g., welfare officer-citizen), healthcare (e.g., doctor-patient), and education (e.g., teacher-student). When people communicate, they enter into a relationship and people tend to respond socially to Web interfaces in much the same way as they would do face-to-face. Therefore, a context of communication (e.g., healthcare) that creates a good relationship (e.g., doctor-patient) might lead to a positive evaluation of the information exchanged. Contexts of communication and consumer-interface relationships are discussed in turn to describe in detail the aims of one and the social characteristics of the other.

3.2.1 Context

Examples of contexts of communication, which have been moved online include: e-government (e.g., West, 2004); e-learning (e.g., Allen et al., 2002); e-health (e.g., Wilson, 2003); and e-commerce (e.g., Burke, 2002). Of these, e-commerce is the area that has seen the most development and research. Tat-Kei Ho (2002) suggested that

lessons derived from the study of the e-commerce context can contribute to the design of other e-applications and meet consumers' expectations of interaction in different contexts (e.g., e-government), which the rapid growth of e-commerce in access to goods, services and information has served to promote. Within this, it is important to understand, and be aware of, the aims of communication in a particular context. For instance, three broad aims have been defined within e-commerce: 1) sharing business information; 2) maintaining business relationships; and 3) conducting business transactions via Web-based systems (see Zwass, 1994), as these could have a bearing on the consumer-interface relationship (see section 3.2.2).

The contents of this Special Issue reflect the emphasis of current research on e-commerce. Of the four papers within the Special Issue, two are based in the context of e-commerce. The paper by Van Djik et al. is concerned with leisure and tourism e-commerce and investigates the buying of a holiday while the paper by Cyr et al. is concerned with entertainment e-commerce and the selling of concert tickets. Of the other two papers, O'Kane and Hargie focus on the communication between employees in an organisational context and Sillence et al. focus on the context of healthcare and the electronic provision of information on managing hypertension.

3.2.2. Consumer-Interface Relationship

As well as being a medium for mass communication, the Internet has been described as an interpersonal medium, as a result of its interactive features and ability to elicit feedback (Walther, 1996). Indeed, studies have shown that people treat a Website as if it were a real person, despite constraints in interaction (see, Sundar and Nass, 2000; Kumar and Benbasat, 2002). Thus, users apply social rules to their interaction with

computers, which is a different response to other types of mass media (Nass and Mason, 1990). For example, Light and Wakeman's study (2001) emphasised the communication process between users and the Web interface and they concluded that even for interactions involving text entry into Websites, a communication model is implicit in users. While research has focused on the process and the content of communication, in terms of the use of media (as described in section 3.1), an emerging area of research is on the relational aspects of communication (e.g., trust), which are deemed just as important in human-computer interaction as they are in human-human interaction (Ramirez and Burgoon, 2004). Therefore, the contents of this Special Issue contribute to the understanding of the relationship formed between the consumer and the interface by highlighting the social characteristics of Websites.

The paper by Van Dijk et al. suggests that people prefer a 'personal' experience when making a purchase, even when just arranging a holiday. O'Kane and Hargie's paper illustrates the importance of email as a relationship-building tool. The paper of Sillence et al. suggests that trust is an important issue for the consumer-interface relationship within healthcare; they propose Website characteristics (related to design and content) that lead to someone trusting/mistrusting a healthcare Website. The paper by Cyr et al. explores the possibility of achieving e-loyalty by creating the feeling of a social presence within a Website, and by creating an environment that people can both trust and enjoy.

3.3. Information search outcomes and Post-information search behaviour
These final two stages in the model are concerned with the communication outcomes of the information consumer communication process, and subsequent behaviour that

is produced as a result of this process (e.g., repeat visits to a Website, recommendation to friends and family). To illustrate the significance of the communication outcomes, we will use e-commerce as an example of a context of communication. E-commerce has been defined as revolving around three broad aims: 1) sharing business information; 2) maintaining business relationships; and 3) conducting business transactions via Web-based systems (see Zwass, 1994). The effectiveness of the communication process is closely tied to the aims of e-commerce (Coughlan et al., forthcoming). Communication effectiveness has been conceptualised in terms of three (although not exhaustive) key outcomes (see Tubbs and Moss, 2000): 1) understanding (relating to e-commerce aim 1); 2) improving relationships (relating to e-commerce aim 2); and 3) action (relating to e-commerce aim 3). Each of these communication outcomes can be described and supported by examples from commerce (e.g., banking) as follows:

Understanding — The primary failure in communication occurs when the person has not accurately received the content of the message being sent to him/her. In retail, some services (e.g., financial) can be highly complex in nature and the buyer needs to understand fully the product or service before they can act by purchasing it. As an example, financial products tend to be quite complicated (e.g., mortgages) and are often sold to customers through the provision of personal advice to ensure that they fully understand the product and commitment they are making (Verhallen et al., 1997).

Improving relationships — The importance of communication in establishing or improving existing relationships is underpinned by the fact that even the most well-

constructed message will fail if the relationship between people is weak. For example, banks have increasingly adopted relationship-marketing strategies for attracting and maintaining customers (Colgate and Alexander, 1998), in the knowledge that the same rules that govern personal relationships and interpersonal communication also apply to commercial relationships.

Action — There are some instances when inducing action from a person is essential to the success of communication. In retail, the salesperson's main objective is to make the customer buy their product rather than a competitor's. However, while it is difficult to get a person to act, the likelihood of success can be increased if the person understands the request for action (achieving communication outcome 1) and a comfortable relationship is maintained during the process (achieving communication outcome 2). For example, traditional branch banking depends on face-to-face communication, which is important in the retail context as a multi-channel experience relying on many cues (e.g., audio and visual) to convey messages, which could be affected when the process is moved online (e.g., Sawasdichai and Poggenpohl, 2002).

The contents of this Special Issue contribute to the understanding of information search outcomes and post-information search behaviour in the following ways: the paper by Van Dijk et al. demonstrates the proficiency of consumers in utilising multiple communication channels, which they evaluate quickly, in terms of the comprehension of the information provided, for example. O'Kane and Hargie's paper demonstrates how the use of email can have many positive consequences if used correctly, such as increasing colleague interaction. The paper by Sillence et al. demonstrates how the trustworthiness of a Website is a way of improving

relationships with the user as patients returned to Websites where: (i) the content was regularly updated; (ii) personal advice was available; and (iii) there was a high level of interactivity. The paper by Cyr et al. uses the concept of a social presence within the Website to improve relationships with buyers, with one finding being that the correlation between perceived level of social presence and e-loyalty varied by gender.

4. Summary

The Internet has changed the way that we interact with each other and with technology, mainly owing to the huge availability of information and people's need to access this information. Moving face-to-face communication to Web-based systems has led to an emerging consumerism based on information and underpinned by a complex process of communication. However, our understanding of what we refer to as information consumer communication is still unclear, as we try to reconcile traditional ways of communicating face-to-face with new and developing ICT technologies. This poor understanding may in part be because of a lack of appropriate research models and frameworks to guide investigations into the information consumer communication process across different contexts from which knowledge could be applied (e.g., from e-commerce). The research model that we provide (in Fig. 1) to conceptualise this process is a starting point for understanding the communication between information consumers and service providers in commerce, education, health and government. It also highlights areas (e.g., the consumer-interface relationship) that further research could support, for example, in the design and evaluation of Web interfaces that can stimulate social responses in consumers and become more reflective of (if not an improvement on) the real-life information consumer experience.

Acknowledgements

References

Allen, M., Bourhis, J., Burrell, N., Mabry, E., 2002. Comparing students satisfaction with distance education to traditional classrooms in higher education: A meta-analysis. The American Journal of Distance Education 16 (2), 83-97.

Atkin, D.J., 2002. Convergence across media. In: Lin, C.A. and Atkin, D.J., (Eds.), Communication Technology and Society: Audience, Adoption and Uses, Hampton Press, Cresskill, NJ, pp.

Bordia, P., 1997. Face-to-face versus computer-mediated communication: A synthesis of the experimental literature. The Journal of Business Communication 34 (1), 99-120.

Burke, R.R., 2002. Technology and the customer interface: What customers want in the physical and virtual store. Journal of the Academy of Marketing Science 30 (4), 411-432.

Castells, M., 1996. The Rise of the Network Society. Blackwell, Oxford.

Colgate, M., Alexander, N., 1998. Banks, retailers and their customers: A relationship marketing perspective. International Journal of Bank Marketing 16 (4), 144-152.

Coughlan, J., Macredie, R.D., Patel, N., forthcoming. Evaluating the effectiveness of customers' communication experiences with online retailers - A study of e-mortgages. Interacting with Computers

Daft, R.L., Lengel, R.H., 1986. Organizational information requirements, media richness and structural design. Management Science 32 (5), 554-571.

Engel, J., Blackwell, R., Miniard, P., 1995. Consumer Behaviour. Dryden Press, Texas.

Gupta, A., Su, B., Walter, Z., 2004. An empirical study of consumer switching from traditional to electronic channels: A purchase-decision process perspective. International Journal of Electronic Commerce 8 (3), 131-161.

Katz, S.J., Moyer, C.A., 2004. The emerging role of online communication between patients and their providers. Journal of General Internal Medicine 19 (9), 978-983.

Kumar, N., Benbasat, I., 2002. Para-social presence and communication capabilities of a web site. e-Service Journal 1 (3), 5-24.

Licklider, J.C.R., Taylor, R.W., 1968. The computer as a communication device. Science and Technology 76 21-31.

Light, A., Wakeman, I., 2001. Beyond the interface: Users' perceptions of interaction and audience on websites. Interacting with Computers 13 (3), 325-351.

Nass, C.I., Mason, L., 1990. On the study of technology and task: A variable based approach. In: Fulk, J. and Steinfield, C., (Eds.), Organizations and Communication Technology, Sage, Newbury Park, CA, pp. 46-67.

Neuhauser, C., 2002. Learning style and effectiveness of online and face-to-face instruction. The American Journal of Distance Education 16 (2), 99-113.

Ramirez, A., Burgoon, J., 2004. The effect of interactivity on initial interactions: The influence of information valence and modality and information richness on computer-mediated interaction. Communication Monographs 71 (4), 422-447.

Rasanen, P., 2006. Information society for all? Structural characteristics of internet use in 15 european countries. European Societies 8 (1), 59-81.

Savolainen, R., 1999. The role of the internet in information seeking. Putting the networked services in context. Information Processing and Management 35 765-782.

Sawasdichai, N., Poggenpohl, S., 2002. User purposes and information-seeking behaviours in web-based media: A user-centered approach to information design on websites, Proceedings of the DIS'02 Conference on Designing interactive systems: processes, practices, methods, and techniques (25-28 June, London, England), ACM Press, New York, pp. 201-212.

Sundar, S.S., Nass, C., 2000. Source orientation in human-computer interaction - Programmer, networker, or independent social actor? Communication Research 27 (6), 683-703.

Tat-Kei Ho, A., 2002. Reinventing local governments and the e-government initiative. Public Administration Review 62 (4), 434-444.

Tubbs, S.L., Moss, S., 2000. Human Communication. McGraw-Hill, London.

Verhallen, T.M.M., Greve, H., Frambach, R.T., 1997. Consultative selling in the financial services: An observational study of the mortgage mediation process. International Journal of Bank Marketing 15 (2), 54-59.

Walther, J.B., 1996. Computer-mediated communication: Impersonal, interpersonal, and hyperpersonal interaction. Communication Research 23 (1), 3-43.

Warkentin, M., Gefen, D., Pavlou, A., Rose, G.M., 2002. Encouraging citizen adoption of e-government by building trust. Electronic Markets 13 (3), 157-162.

Webster, F., Ed. 2002. Theories of the Information Society. Routledge, London.

West, D.M., 2004. E-Government and the transformation of service delivery and citizen attitudes. Public Administration Review 64 (1), 15-27.

Wiberg, M., Ed. 2005. The Interaction Society: Practice, Theories and Supportive Technologies. Information Science Publishing, London.

Wilson, E.V., 2003. Asynchronous health care communication. Communications of the ACM 46 (6), 79-84.

Zwass, V., 1994. Electronic commerce: Structures and issues. Journal of Electronic Commerce 1 (1), 3-23.

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