Multimedia Technology in the Financial Services Sector: Customer Satisfaction with Alternatives to Face-to-Face Interaction in Mortgage Sales

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ABSTRACT
Participants (N=71) took part in mortgage interviews with a human agent interacting with a computer using four different communication modes: a standard video link, a video link with video-data, the telephone and face-to-face. Video-plus-data came significantly higher in the rankings than phone. It is argued that video-plus-data was found to be more useful than phone, as it provided the participants with more feedback on their mortgage negotiation. Usability and preference were highest for face-to-face. Usability of video was significantly higher than video-plus-data. Comments made by the participants suggest that this may have been due to the split-attention effect and it is argued that this could be diminished by usability improvements. There were no significant differences in usability between the two video services and the telephone. Reasons for this are explored. Differences between genders were also discovered with the phone being judged to be less usable by male participants. If face-to-face mortgage interviews are to be supplemented by other communication channels then users would find video-plus-data the most acceptable, but there is much room for further improvements in usability.

Keywords: Customer-Agent-Computer Interaction, Face-to-Face, Human Communication, Telephone, Usability, Video Communication

1. INTRODUCTION
The continual widespread advances in computer technologies have encouraged many banks to adopt new methods of interacting with customers to in an attempt to lower costs and to maintain competitive advantage, whilst creating more convenient methods of banking for the customer. Banks are now committed to transferring many customer services that have traditionally involved interacting with staff in branches to different technology channels such as the telephone, email or the Internet. One such technology channel is Video-Mediated Communication (VMC), and multimedia contact centres offering video conferencing are already being developed by financial services.

DOI: 10.4018/jthi.2011100102
Offering customer services over the telephone, or via VMC, will involve a customer representative working in front of a computer, and interacting with the computer on the customer’s behalf. This type of interactive process has been referred to as customer-agent computer interaction (CACI) (Kira, Nichols, & Apperley, 2009), and is typical in many types of business communication, not just in the financial services sector (the typically cited example is a travel agency). In all of these settings the agent/advisor acts as an interface between the customer and organisation (Randall & Hughes, 1995).

The introduction of any new banking channel will require research to compare it with available services in terms of usability and customer satisfaction with the service, because as has been pointed out (Anderson et al., 1996) if a user’s first experience of a new service is unsatisfactory they may revert to the use of a more traditional form of service. It may also result in loss of business to competitors. This paper describes research with customers of a UK bank (here termed the Case Bank) on the CACI scenario of introducing alternative channels for mortgage application interviews. The aim was to deliver empirical data to compare customer attitude to the alternatives to face-to-face communication: VMC and the telephone. The findings would inform and guide the future deployment of the technology. This work builds on previous research (Anderson et al., 1996; Fish et al., 1990; Sellen, 1992; Tang & Isaacs, 1993; Watts & Monk, 1996) that has already reported user preference for richer media, such as video conferencing.

### 1.1. Customer-Agent Computer Interaction: CACI

CACI requires three entities: one or more customers, a representative for the organisation (the agent) and the agent’s computer. In addition, the customer will have specific details relating to the task, and the agent will have domain expertise. The agent’s role is one of mediation between the customer and the organisation’s information system accessed via the computer. The customer does not directly interact with the computer. Research on CACI is limited but work carried out by Kira et al., (2009) is relevant to this paper. The aim was to investigate how two people interact over face-to-face and telephone communication modes where there is also a computer involved in the interactions. The scenario was travel planning and booking a flight. The major findings were that task completion rates were significantly faster and more task-focused with telephone interactions, that with the telephone there was more doubling up of activities and that the subjective satisfaction rating was only slightly more favourable for the face-to-face condition, but not significantly so. Kira et al. (2009) argue that the telephone is not necessarily an impoverished communication mode and suggest call centres are efficient in providing customer service.

### 1.2. Video-Mediated Communication: VMC

Much previous research on video-mediated communication (VMC) has produced little evidence to show that it can confer comparable benefits to face-to-face interaction, or show benefits over audio-only communication on task performance (Anderson et al., 1996; Boyle, Anderson & Newlands, 1994; Chapinis, 1975; O’Malley et al., 1996; Whittaker, 2003). It has been argued (Reid, 1977; Short, Williams & Christie, 1976; Williams, 1977) that tasks that involve a larger social element have revealed more of the benefits of using VMC. This forms one point of departure in motivating the experiment reported here since the mortgage / insurance interview involves a large degree of social interaction. Research (Damian et al., 2000) on groups using VMC, and more longitudinal studies (Isaacs & Tang, 1994; Van der Kleig et al., 2005) have had more positive results. It has also been argued (Isaacs & Tang, 1994) that the benefit of video will not be revealed in interactions between strangers, or in artificial experimental sessions. But Rutter et al. (1981) argue that face-to-face is more time-consuming and less efficient, and
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