

(17) Embodied Conversational Agents in E-Commerce. Do they sell?

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Abstract

Embodied Conversational Agents (ECAs) are considered to improve human computer-interaction in many ways, making the interaction more intuitive, fostering the acceptance of complex systems and increasing user motivation and task performance. Beyond the scope of scientific research ECAs already show an increasing presence in the internet, taking the role of virtual assistants in guided tours or virtual sales people presenting the offerings of an e-commerce shop to the user. Although these applications might benefit from the appearance of an ECA in a more general way leading to better acceptance and liking the most important question to be answered empirically is still pending: Do ECAs really sell? Do they lead to better page impressions and do they increase the users' readiness to buy a product on the respective site? To test the effects of ECAs within e-commerce applications three online-bookstores (two with ECAs and one text-based). Figure 1 shows the home page of one of the experimental bookstores. To account for possible variance induced by the appearance of the ECAs two different characters were used: a more realistic anthropomorphic character and a comic-like character. Product categories as well as the particular books were matched for the sites. Verbal dialog was conducted in text mode using bubbles for the verbal responses of the ECAs.

45 participants took part in the experiment. Major attention was paid to cognitive and behavioural output measures. Memory effects were tested in an aided and unaided recall procedure. General interest was quantified by means of an objective measure, i.e. the time spent on each site. In contrast to many other studies buying behaviour was not measured by questionnaire but by direct observation: participants had to spend their incentive by buying a book in one of our internet bookstores and could decide in which one. In addition, subjective measures were taken using an adjective check list to indicate interest and mood of the participants. As expected the ECA sites produced a highly significant entertainment effect. Subjects felt more amused on the ECA sites and less bored. Also the results of the unaided recall reveal a significant difference between the ECA sites and the text interface site. ANOVA further revealed a highly significant effect of the ECAs with respect to the time participants spent on each site. Both ECA sites induced longer stays on the sites, whereas both ECA sites did not differ significantly. Finally, we found a significant positive influence of the ECAs on users' actual buying behaviour.