

Conception and implementation of the Siemens Employee survey with continuous immediate valuation through descriptive measures.

Wilfried Bauer & Cornelia Hauptmann¹

The first SieMAB questionnaire survey was carried out as on-line project and serves not only as an instrument to measure employee opinion but also serves to develop the corporate culture. The optimal technical possibilities in Siemens Intranet are completely exploited for both the on-line survey and the on-line valuation. This enables a rapid feedback from the opinion surveyed. The process of the SieMAB incorporates the conception and the active accompaniment by experts. The process begins with a web-based implementation of the survey, the carrying out of survey with on-line instant valuation, further statistical analysis right up to concrete implementation of the change measures and quality control.

Continuous customisation and optimisation of the newly-developed SieMAB Tools have led to a very high acceptance to the use of on-line surveys both internally in Siemens and on the external market. In particular the methodology and media-didactic aspects are taken into consideration in both the development and the implementation of the questionnaires. In addition to the quality of the questionnaires, the translation of the firm's organisational structure into a flexible data bank structure is the deciding factor for the electronic communication of survey results. In this way the documentation administration allows new tools for the valuation of the opinion according to the descriptive statistical data. It offers an optimal solution for exact, fast and clear communication with and between employees (eg presentation of results designed in the same style as survey). Transparent anonymisation procedures, high technical standards and continuous support are the further advantages of our service. The use/employment of Inductive statistic valuation and content analysis contributes to the improvement in understanding the employees. The service will be expanded in the near future to include chat-rooms, newsgroups and web-meetings.

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The Computer as a Medium for Media Integration. Results and Experiences of an international online and offline survey.

Klaus Beck¹ & Alexander Raulfs

Computer-networks and computer-mediated communication (CMC) may lead to a deep change of media structure and of societies communication- structure. “Convergence” and “information society” are keywords in the controversial public debate on this topic.

On the one hand experts predict solutions of current problems based on the technical possibilities (economic growth, employment, international economic competition, modernization of society, political participation). On the other hand experts highlight possible negative progress (rationalization, new inequalities, lack of knowledge, social isolation and loss of social integration). Prognosis is based mostly on wide ranged unproved theoretical assumptions and on trend explorations, that have frequently to be corrected.

Resulting from this the authors have carried out an international survey among experts.

The “two-round-survey” was supported by the German government in 1998 to 1999.

The experts were asked about the short and middle- term development till 2015 on whether the computer will become a medium of media-integration and on the possible effects within different social sectors.

In total 360 scientists and “deciders” in politics and economy gave record of their prognosis, among which were 100 experts on information and entertainment.

For the GOR congress `99 a specific choice of results will be presented. The authors will discuss the following questions:

- (1) Technical forms of media integration: consumer products, platforms, user interfaces
- (2) Forms of media integration: divergence of offerings and convergence of usage?
- (3) Effects on the media
- (4) Effects of media integration: interactivity and virtuality? Focused are methodological questions, especially: (a) typology of online-vs. paper&pencil-

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participants (age, profession, specialization); (b) behavioral differences in answering the questions (panel-mortality etc.) between online- and offline panel; (c) methodical differences between online- and offline panel.

Keywords: Media integration (convergence), forecasts, online-Delphi

Online-Offline. A theoretical Approach to define a crucial Category of Online Research

Thomas Berker¹

Who ever was involved in Online Research knows about the problem of a proper definition of „being online“. Of course, it is possible - for example - to set a minimal number of hours per week as a measure of ‚real‘ online usage. But there are certain caveats connected to this decisionistic approach. In a study conducted 1998 in Frankfurt/Germany² several findings point to the need for a theoretically guided way of defining online usage. To mention only one of these findings, it was evident that those, who are more active in terms of time per week, are spending not merely more time with the Internet, they are using different parts of the Internet and they are doing it in a different way.

In accordance to this findings I am suggesting a theoretical framework to avoid the pitfalls of unjustified simplifications. With a strong concept of „everyday life“ („alltägliche Lebensführung“) developed by Günther Voß et al. I am able to describe different types of interconnections between media usage, work and leisure time. These arrangements are changing both in an individual and a superindividual sense. According to the so called „French School of Regulation“ I distinguish two major modes of media usage, a fordist and a postfordist, which describe two very different arrangements of everyday life. Whereas the former is dominated by a strong distinction between media usage at work on the one hand and for recreational needs on the other, in postfordist media usage both are inextricably intertwined. Often this is combined with the integrated usage of a wide variety of different media.

In Internet usage we can find both arrangements, in its institutional shape and in the usage itself – with a strong tendency to postfordist modes. So we have to be aware of the type of usage we are observing, when we try to explore Internet usage. The study of postfordist media usage has to reflect the new significance and position of media in postfordist everyday life. For example „one media studies“ are no longer applicable to this type of usage.

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² The study consists mainly of a logfile analysis and an e-mail questionnaire.

Online Personality Assessment: Equivalence of traditional and WWW personality measures.

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WWW-mediated personality tests are amongst the techniques increasingly being used in online psychological research. Given their relatively short history, it remains important to establish the validity of online research techniques (e.g. Krantz, Ballard & Scher, 1997, Krantz & Dalal, in press). For WWW personality tests, an obvious question is whether such instruments are psychometrically and psychologically equivalent to traditional pencil-and-paper measures of the same constructs (Buchanan & Smith, 1999). This paper reviews evidence from research published to date (e.g. Pasveer & Ellard, 1998; Davis, 1998; Schwarzer, Mueller & Greenglass, 1999; Buchanan & Smith, 1999; Buchanan & Smith, in press) which has demonstrated that online instruments can be psychometrically equivalent to pencil-and-paper versions of the same measures. However, this is not always the case. As an example, a current project evaluating an online version of a Five-Factor personality inventory (Goldberg, 1999) is described and preliminary conclusions about its validity presented. Finally, implications and future possibilities for online personality research are discussed.

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It pays to be coherent!

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According to McGrath (1990), conversational chaos in text-based and simultaneous computer-mediated communication (CMC) leads to poorer synchronization and tuning of group members than in face-to-face groups (FtF). Especially, problem-solution and consensus-finding groups show more difficulties in coordinating evaluations. The resulting lower satisfaction with group decision leads to higher deviations from group decision after discussion. We assume that these negative media effects may be compensated by enhancing communication skills in CMC. Experienced users cope with topical incoherence and impaired turn-taking in CMC by explicit referring and by structuring the conversation with requests.

40 3-person-FtF- and 40 3-person-CMC-groups had to work on a carrier choice dilemma and were instructed to find a group consensus. 10 CMC groups received a training in referring, 10 CMC groups got a training in requesting and 10 CMC groups got a combined training of these compensation strategies. 10 CMC groups served as controls.

Results showed that coherence in CMC is enhanced by all kinds of training. Enhanced coherence led to better coordination and group-well-being. The acceptance of the media, the satisfaction with group decision and thereby the commitment with decision increased. These are desirable consequences when computer conferences in organizations are employed.

Key words: computer mediated communication, communication training, group coordination

McGrath, J. (1990). Time matters in groups. In: Galegher, J., Kraut, R.E. & Egido, C. (Eds.): Intellectual Teamwork. Social and technological foundations of cooperative work. Hillsdale, NJ: Lawrence Erlbaum.

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Employee-surveys via intranet

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Online-surveys get more and more popular with market and social researchers, who obviously take advantage of this quick and economical possibility to collect data. But there are some serious methodological problems which mainly concern the limited data quality because of the well-known selection bias of the sample. Therefore this kind of data collection does not seem suitable to get general representative surveys.

However, if there is a clearly defined population, which can surely be reached via internet, it should be possible to collect valid, representative survey data. For example employees of a company connected via intranet form such a group. This kind of research is mainly interesting for companies with offices scattered on a national as well as global level.

At the University of Duisburg we conducted several employee-surveys via internet and intranet for the past few month. With these experiences we can confirm the enormous power of this technique. Nevertheless there are technology effects, data security and legal issues, which raise new questions. The poster presentation will focus on those methodological aspects, which are relevant when conducting an employee-survey.

Keywords: online-survey, employee-survey, intranet

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Multimedia in professional education within companies – status-quo and development

Thomas Döbler¹, Claudia Dold & Birgit Stark

Living in the 5th Kondratieff-cycle – the cycle of information and communications technology – inevitably means being on our way towards the knowledge society. Knowledge itself and the management of knowledge is more and more becoming a vital resource for companies. As a consequence, besides technical and social skills, education and „know how“ acquire increasing importance and develop to be key factors in the global competition of today's world. Not only must companies learn to handle information faster, but also do so more selectively and rationally. Hence, the use of new media, which enable new forms of teaching and learning, seems to be an intruding notion. The possibilities of using multimedia applications in companies are extraordinarily multifaceted, including a broad range from tele-administration, video conferences, teleworking, tele-learning, -teaching, -tutoring, to computer based training (CBT), publicly accessible information terminals and business TV.

The properties of these systems – such as interaction, self-controlled and flexible learning, and modularity – should help to improve information management and to meet individual objectives better. Also, the systems allow a better control of both depth, duration and width of learning activities, and - above all - they enable a much more individual way of learning.

An interesting question is, to what degree companies already use and apply the described potentials at the current point of time. In fall 1998, an empirical research has been conducted that deals with this very question. Covering 987 German companies, this study („Multimedia in professional education within companies“) has been performed in close cooperation with the Fraunhofer Institute for Ergonomics and Organization. Both mail and online survey methods were used, resulting to a feedback quota of 11%.

The study covers topics such as:

- the status quo of professional training within companies (concerning both content and techniques)
- experiences of individual entrepreneurs
- criteria for the selection of multimedia instruments

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- possible developments in the education and training sector, both on a company and social level.

In a nutshell, these are the results of the evaluation, as available to this point: There is still a gap between which instruments companies consider to be „desirable“ and which they currently apply in reality. CBT (learning via CD-ROMs) and „Web based tracking“ (learning via Internet and Intranet applications) are the two most wide-spread techniques so far. However, there is also a clear tendency that the other aforementioned techniques will catch up very quickly.

The Image and Experience of Internet

Michael Epple¹, Roland Guenoun, Julia Schäfer & Laura Cantoni

The world wide Ipsos Group conducted a pan-European qualitative survey to gain insight to the image and perception of the Internet among users and non-users. 14 “traditional” focus groups were conducted in the U.K., France, Germany, Italy, Spain, Belgium and Hungary, and additional online focus groups in the U.K., France, Germany plus one transnational group.

Beyond the influence of individual usage and incidence rates, two major cultural trends have been determined:

- A “nordic” trend (predominantly in UK, D and B) with higher Internet penetration, where Internet usage is significant in everyday life, encouraged by higher English language proficiency and a relatively less outgoing lifestyle.
- A “latin” trend (predominantly in F, I, E and H) with lower penetration, but fast growth rates. English is barely spoken. A lower level of equipment and the outgoing lifestyle have kept their members behind Internet usage.

The image of the Internet can be summarised alongside two axes both focusing on information. The first axe describes *type of information* with the poles “education” vs. “entertainment”, the second *structure of information* with the poles “order” vs. “chaos”. Finally, the Internet is perceived as an intricate structure, requiring specific skills, initiative and an ethically minded usage.

The main functional dimensions of the Internet are *information, communication, entertainment* and *e-commerce*. Information is the most accepted in general, while communication is strongly associated with alienation by non-users. The other dimensions are ambivalent due to internal and external fears related, e.g. loss of (self) control and submission.

4 attitudinal “prototypes” of Internet usage/non-usage have been identified:

- *The Hedonist*: “no limits” type of heavy user, driven by exhilaration and fun
- *The Rational*: sound usage of Internet, driven by efficiency
- *The Follower*: trying to adjust to the trend and perceiving the relevance

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- *The Committed*: anti-user driven by ideology of evil technology

Projective future scenarios show the acceptance of the Internet as an irreversible development, with perceptions torn between oppressive structure and creative chaos on one side, between need for regulation and maintenance of autonomy the other. All expectations about the future of the Internet are motivated by a strong demand for humanisation of technology.

English Keywords: Imagery of Internet, Internet Development, Typology of Internet users, European Internet

Determinants of the Development of Community in Computer Networks

Christian Fink und Lorenz Gräf¹

The term „Virtual Community“ is very popular at the moment. It is used to denote phenomena as disparate as portal sites, community networks, chat rooms, intranets, and others. Often, the development of a community around a given communications infrastructure is taken for granted and the only questions raised pertain to which technical features would be most popular. With the usual time lag, an American insight is becoming accepted in Germany, too: that a “database is not a community“ and that the chance to communicate does not automatically and without social control lead to desirable consequences.

None of the aforementioned technologies is deemed to either bring about community with necessity or to have no potential at all to facilitate its emergence. Instead, this article suggests a taxonomy of virtual communities with regard to their geographic area covered, their purpose or thematic orientation, the mode of coordination and regulation (initiation, norming, and control) of social action and the technical implementation. These factors determine the availability of thematic, cultural, and social resources as well as the perceived social presence of others and the cognitive ease of interaction. They, in turn, effect and influence the type, intensity, and continuity of social binding in such a virtual community.

After the theoretical part, we describe an experiment, in which in ILIAS, the online learning community of the University of Cologne’s Faculty of Economics and Social Science, some of these factors have been manipulated systematically to determine their relative importance.

Keywords: Taxonomy, Virtual Community, Computer Mediated Communication (CMC), Virtual University

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An empirical comparison of traditional and web-based experimental survey administration: Could it be that spamming is OK after all?

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This paper reports the results of a randomized vignette- and questionnaire-based research project over the World Wide Web investigating the influence of an informational construct (Moral Intensity; MI) on ethical decision making in a business context. Analysis of quantitative results indicated that three of the six MI components were particularly important determinants of several outcome variables. This pattern of results essentially replicated that yielded by a previous mail administration of the survey, even though a relatively smaller, but with respect to other relevant research comparable, amount of variation in the outcome variables was accounted for. Neither occupational background (unexpectedly) nor the region of origin of participants (expectedly) measurably influenced results.

Second, a qualitative analysis of e-mail responses is used to provide insights into the reactions and responses of participants to both the research method, and the topic of research. Accordingly, it is suggested that the considerable time and effort involved in software preparation and responding to e-mail communications means that in many instances there will only be small, if any, time savings. However, the quality and increased flow of communication associated with the method is argued to be beneficial in terms of the feedback gained. Finally, in contrast to what appears to be currently accepted opinion, the data showed that the method of randomly selecting individual e-mail addresses to receive invitations to participate in research is both successful and acceptable to all but a very small minority of recipients. Recommendations with regard to the content of such invitations are made.

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Keywords: Ethical decision making, informational determinants, research method, participant reactions.

Financial incentives, personal information and drop-out rate in online studies

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Can financial incentives be used to reduce drop-out in online studies? This question is important for methodological as well as practical reasons, but it has not yet been studied experimentally. One of the non-experimental methods used to assess an answer was a survey among 21 web experimenters recently conducted by Musch and Reips (in press). In contrast to the expectation of a purely intrinsic motivation for participating in online studies they found a clear link between lack of financial incentives and drop-out rate. To further investigate the causal nature of this relationship a web experiment was conducted in the Web Experimental Psychology Lab at Zurich University. 891 persons participated, 497 in an English version, and 394 in a German version. The web experiment was also designed to test the assumption that asking participants for personal information early in the experiment would lead to increased drop-out as well as different answering behavior in questions that are likely to be influenced by social desirability. This assumption was not supported by the results. Data supported the hypothesis that announcing a lottery at the beginning of a study results in a reduced drop-out rate. As in the Musch and Reips study, drop-out was found to be about twice as large in the non-lottery condition as in the lottery condition. All in all drop-out was relatively low, supporting the notion that with the right design even in online studies without financial incentives, not too many methodological problems with high drop-out rates should be expected.

Keywords: Drop-out, financial incentives, web experiment, personal information, social desirability

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Mood Induction via the WWW

Anja S. Göritz, Bernad Batinic & Klaus Moser

In a WWW-experiment with prior self-registration of the respondents the effectiveness of three mood induction procedures (MIP) in contrast to a control group was comparatively evaluated. For this purpose classical MIP's that have been successfully applied offline were adapted for the WWW. As an overt technique the Velten-Procedure was used. In one covert technique respondents were required to rate emotionally positively or negatively charged images. The other covert technique asked respondents to recall four strongly positive or negative events of their life and, for intensification, to put down related notes in a WWW-form. Mood was assessed by using the two scales "depressed mood" and "elated mood" of the "Adjective scales for the assessment of mood (SES)" (Hampel, 1977).

Both the mood differences between the positive versus the negative mood induction within each MIP and the between-subjects difference between the mood of the control-group and the post-induction mood of each factor level were ascertained. In addition, the duration of the mood induction over a neutral distraction task was examined using the Velten-procedure. By means of time-measurement the length of time that each participant had seen the induction material was controlled. The drop-out within each experimental condition was also analysed. Finally, the presentation tackles ethical aspects that are brought about by this kind of "invasive" online research.

Keywords: WWW-experiment, mood induction procedures, effectiveness

Riepls-Law in the Online-Age. A Secondary Analysis on the Boundaries of Substitutional Effects of the Internet on Traditional Mass Media.

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Once specific technical media have established themselves as a means of social communication they will never be fully replaced or permanently substituted even by technically more advanced media. Rather, established media will continue to be used, though, they will possibly be forced to change their contents and fields of application. This hypothesis, known as “Riepls law” was formulated by Wolfgang Riepl in 1913 concerning news media in ancient times. It proved to be true for the development of traditional media like newspapers or radio. There are a couple of reasons to believe that Riepls law will also apply to the effects of the internet.

Analyzing German data from the representative annual marketing survey "Typologie der Wünsche 1998/99" shows, that using the internet or proprietary online-services hardly affects the use of traditional mass media. All in all content and gratifications of online-media seem to be too different from traditional media. Peculiar media-usage-patterns among onliners are largely explained by their sociodemographic and personality features.

Time spent on the internet does only to a small extent diminish the amount of time spent for using traditional mass media. Thus, as long as the average online-time per user will not drastically increase, the effects of the internet on the use of traditional mass media will continue to be moderate at most

Keywords: Internet, mass-media, uses-and-gratifications, substitution

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Communicability of Emotions in Computer-mediated Communication.

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The chances, advantages and disadvantages of computer-mediated communication (CMC) are the source of contradictory opinions and research findings. Despite of the advantages of high-speed world-wide communication, critics describe CMC as unpersonal and emotionally restrained, due to the lack of nonverbal communication channels, which might cause emotional and social isolation.

A Web-based questionnaire was used to rate different media regarding their suitability for emotion mediation. A strong effect of media and an interaction between media and direction of communication could be found. Furthermore gender differences in communicating emotions, which are known in face-to-face communication, were also apparent in CMC.

We further investigated the use of graphical emoticons, which may serve as an alternative way to communicate emotions. Knowledge, the frequency of use and the subjective attributed meaning of emoticons were assessed. Only a limited number of different emoticons are relevant and in use. A higher frequency of use of emoticons is positively correlated with the perceived communicability of emotions in CMC.

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Interactivity in Educational Web Applications: Evaluation Methods and Improvement Strategies

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“Interactivity”, a key buzzword of the information age, has become an essential goal of many educational, entertainment and eCommerce Web development efforts. JavaScript-, Java- and Shockwave-applications promise higher involvement of the learner/user, more sophisticated user interactions (beyond the usual hypertext navigation), and Web services that can adapt to the user's skills and preferences (“user modelling”). Although these concepts have been applied in a great number of instructional CD-ROMs and computer games already, their implementation on the WWW is still rare. One of the reasons are (often substantial) system response times (SRT), or “net lags”, encountered in open networks, especially for multimedia content. As our studies, among others, have shown, SRT beyond a certain duration can impact both the involvement as well as the emotional state of the user. Though such technical problems as “net lags” may (and certainly will) be remedied in the future, our research emphasizes the potential of analyzing the temporal properties of the human-computer interaction for understanding and improving this process.

Obtaining quantitative measures (as opposed to qualitative data, e.g. questionnaire ratings) on the WWW is both a challenge and an opportunity. We developed a JavaScript tool for creating a high resolution, time-stamped, event-related protocol of the user's navigation within and between electronic documents, and implemented it to record both the technology-induced times (SRT) and the human-dependent times (decision/action times). It was used in a series of lab experiments as well as in the interactive educational Web application “Interactive Shakespeare”. Results emphasize the critical role of “time design” for realizing the full potential of interactive applications. Based on “Interactive Shakespeare”, we demonstrate how breakdowns of the interaction-flow can be diagnosed and interpreted, and how this information can be used to enhance existing Web sites.

Keywords: usability, interactive systems, evaluation

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Information Seeking on the World Wide Web – measuring user behavior

Christoph Hölscher¹

User behavior, Search engines, logfile analysis, expert novice comparison

Abstract

Searching for relevant information on the World Wide Web often is a laborious and frustrating task for casual and experienced users. To help improve searching on the web based on a better understanding of user characteristics, we investigate what types of knowledge are relevant for Web-based information seeking, and which knowledge structures and strategies are involved.

Two experimental studies are presented, which address these questions from different angles and with different methodologies. In the first experiment 12 pronounced Internet experts are first interviewed about search strategies and then perform a series of realistic search tasks on the WWW. From this study a model of information searching on the WWW is derived and tested in a second study.

In the second experiment two types of potentially relevant types of knowledge are compared directly. Effects of Web experience and domain-specific background knowledge are investigated with a series of search tasks in an economics-related domain (introduction of the EURO currency).

Simulated search tasks which address individual sub-processes of the search process are run via questionnaire. This is complemented with real-life information seeking tasks on the WWW and data is collected with the combination of proxy logfile and traditional observer protocols.

We find differential and combined effects of both Web experience and domain knowledge.

Costs and benefits of the various methods of data collection are discussed.

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Motivation and media-competence as a central factor for successful virtual seminars

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Virtual seminars as a form of tele-learning are becoming a well established instructional form within universities and educational offers for adults. The critical gist of many virtual seminar projects are two problem sets, typical for tele-learning applications: low media-competence and low participation rates. Substantial solutions for these problems are not yet available.

During a bi-national virtual seminar, based at the University of Goettingen and at the Rensselaer Politechnic Institute, Troy, NY, these phenomena were of research interest. Communication media for the seminar were synchronous (chat) as well as asynchronous CMC tools, supplemented by newsboards of the instructors and other information available from a homepage. The seminar was split into two parts, a preparation phase (partly virtual) within each national group and a virtual cooperation phase. Data was gathered at three points on motivation, media-competence, identification with the seminar, study-techniques and cooperation/communication behavior.

A clear positive result of media competence training was an overall good achievement and a heightened participation both in off-topic, casual and on-topic communication. Secondly, the drop-out rate of three students out of 22 is low. Continuous identification measures in relation to media competence lead to a median split into high and low media competence participants. These revealed two distinct identification and personal attraction patterns. Highly media competent students are low identifiers during the first phase and recupe during the more demanding virtual phase. They are easily bored of their „stupid“ colleagues. Low media competence leads to an inverse pattern. Their identification rises during the training phase and drops during the virtual phase. Concerning personal attraction they feel more attracted to the „technical wizards“.

Media competence training interventions are necessary for a successful seminar, but they need to be differential in their target population, otherwise phenomena known from school contexts, e.g. the underachieving overachiever, are likely to appear.

Keywords: virtual seminar, motivation, media-competence, CMC

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Content analysis of web pages: Problems and solutions

*Harald Klein*¹

Abstract: This paper deals with the problems and solutions that arise with the analysis of web pages. These consist not only of texts, but also of graphics, links, advertisements and many more. It is necessary to define the information that is going to be analysed and prepare it for an analysis. Basic principles of software for this purpose are presented with an emphasis on the steps for a computer aided content analysis of web pages.

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Drop-Out-Analysis: Effects of Research Design

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Drop-Out poses a special problem to online surveys. As in postal surveys, there are no guiding interviewers who could support the questioning.

The Rogator-method (one question-one screen) supplies information about the nature of drop-outs. These may result by length of interview, questionnaire design, type of question etc.

Drop-outs should be avoided because of several reasons. Surveys in rare or difficult segments afford a high response and drop-outs could be systematic, thus resulting in a biased sample. Furthermore, drop-outs and poor answers seem to have the same reasons, so that drop-outs will also signal poor data quality. Improvements in survey and questionnaire design and in survey software could therefore reduce drop-outs and bias considerably, thus resulting in higher data quality.

The paper analyses drop-outs from several projects. Results are indicating, that open and matrix-questions are hard to handle for respondents, consequently leading to a lengthy survey and more drop-outs. In addition, regular patterns in answering matrix questions do raise serious concern in applying this type of question.

There exists also a structural problem. In website evaluations, members of the community are more responsive and will deliver more insightful comments on open questions. Samples are therefore dominated by „fans“. Bias could be avoided by splitting a questionnaire, serving closed questions in one survey, appealing hopefully to all prospective respondents. A second questionnaire, consisting of both closed and open questions, will deliver further in-depth results, possibly restricted to the community. The latter restriction will not hamper the goal of such a survey to a great extent. Benchmarking to other websites / communities will still be possible, opportunity for improvements still be there.

These results will certainly give rise to building more pointed hypothesis. The next step will be specific methodological tests. An advanced survey software will undoubtedly offer many opportunities for testing, especially through collecting information about the technical status of users, duration of interviews and other parameters. This serves a permanent, empirical based optimization of software and questionnaire.

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Keywords: Drop-Out, Survey Design, Questionnaire Design, Data Quality

Online-Communities: Agents of Democratisation and a Marketing-Paradigm

Gerhard Lukawetz¹

Since the mid-90s there has been hope even in Europe that online communities may foster both economic and democratic developments. The article will show results based from a seven-year-experience of practical community-networking, as well as results of empirical studies and theoretical considerations.

Community networks and free-nets played an important role in spreading the use of the net in its early days of growing popularity from the late 80s to the early 90s. Many thought of it as a new tool for the development and enhancement of the civil society. Others (Hamman, Rheingold ea.) called it a new "Third Place" for social exchange and the construction of communities. Individuals, grass root organisations and NGOs (non-governmental organisations) find computer mediated communication (CMC) a useful mean to organise their activities, to keep in touch with activists and supporters and even to find more people interested in issues their work is dedicated to. In the mid-90s community networks ("digital cities") were promoted by the European Union as a universal tool for spreading the use of the net, enhancing commercial applications, and even modernising city administrations: Its bidirectional communication capabilities make online media suitable for establishing a third level of democratic discourse (besides traditional political institutions and mass media) avoiding "gatekeeper" and reality-construction effects found e.g. in press or TV.

When the commercializing process of the net advanced, very similar virtual entities, so-called "online communities" seemed a solution for establishing ties between a website and the roaming and quickly volatiling internet user. E-commerce concepts make use of additional information available from community members and establish new targeting concepts for marketing like "communities of interest".

In contrast to the manifold applications which exist for online-communities, we only possess a very basic understanding of their processes and effects. Most of our knowledge is derived from a patchwork of theories and findings on related subjects (like studies of behaviour in virtual realities and chatlines) and theoretical discourses. This article will analyse experiences and empirical studies about one of Europe's oldest and largest Online-Communities, the Vienna-based Black*Box, founded in 1992. First online research dates back to 1995 and recent works (already in progress),

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including an online survey and group interviews will aid the further development of both the technological platform and media design. Experiences and research results are discussed in a theoretical and practical context.

Keywords: online communities, community networks, electronic democracy, e-commerce

Conjoint analysis of individual preferences over the internet

Torsten Melles¹ & Martina Luzar

Conjoint analysis is used to investigate preferences and decision making. Through the last two decades it has gained growing interest in market research. In conjoint analysis for each attribute-level a partworth is determined by decomposing global multiattribute judgments. Reliability and validity of this method is determined by several characteristics of the task (cf. number and complexity of concepts) and of the subject. Validity of different methodological variants has been demonstrated. Nevertheless, little is known about the influence of different preference elicitation procedures on results in conjoint analysis. This is especially true for using the internet although it has gained growing interest in market research (Saltzman & MacElroy, 1999). We conducted an online conjoint analysis testing reliability and validity on multiple criteria. Each of 9226 subjects was asked to make 30 graded paired comparisons. The results were compared to a conjoint analysis conducted through a traditional computerized personal interview. Possible methods to limit the drop-out of subjects and to improve the validity of conjoint-data will be discussed.

The goal of this paper is to give users of conjoint analysis an example for using this method in online-research. Moreover it is shown what problems have to be regarded and how valid the data will be.

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Computers as Pacemakers: The Influence of System Response Time on Navigating Through Hypertext

Herbert A. Meyer¹, Martin Hänze, Ebru Güntekin, Martin Grebe, Pia Brede & Michael Hildebrandt

Surveys consistently report long system response times (SRT) among the major problems in World Wide Web usage. Systematic studies on the cognitive and emotional impacts of such delays, however, are rare. Approaching this problem from the perspective of cognitive psychology, and based on theories of memory and time perception, we investigated the threshold at which system response times become annoying. Participants in our study explored a Web Site consisting of 1300 fashion photographs, i.e. catwalk shots from designer shows. The users could browse freely among the various collections. To maintain control over the experimental situation, the study was conducted in the laboratory on a PC workstation. SRT was manipulated (between-subjects) in a range of 0.5 to 3.5 seconds.

Mood rating tests confirmed our hypothesis that SRT becomes annoying only at SRT of three seconds and over. We also recorded residence time for each chosen HTML file, i.e. the time the user viewed each separate page. An astonishing pattern emerged: the longer participants had to wait for delivery of a page (i.e. the longer the SRT), the longer they actually viewed the page. Apparently, longer SRT induced a slower pace of perception and navigation. However, at the critical point of three seconds SRT, this linear relation broke down and residence time dropped. This was also the time when negative emotions appeared. Above this threshold, figuratively speaking, the computer became the break block of the user dialogue. Below, it worked almost like a pacemaker. To emphasize, it is the human who keeps the computer's pace, not the other way around! A replication of this study showed the same pattern of synchronization between SRT and residence time, and also revealed cognitive correlates of this effect in an adaptive recognition test. Based on these results, we firmly advocate a cognitively sound "time design" for the development of future computer interfaces.

Key words: hypertext, system response time, emotion, cognition

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Honest Answers to Embarrassing Questions: The Randomized-Response Technique

*Jochen Musch*¹

The randomized response technique guarantees the anonymity of respondents in surveys aimed at determining the frequency of socially undesirable, embarrassing or criminal behavior. A random number generator (e.g., a dice or a coin) decides whether the respondent is asked to answer honestly to the critical question, or whether he or she is urged to answer with „yes“, irrespective of the question content. The researcher does not know the outcome of the random experiment. Thus, he never knows whether an individual „yes“-answer was determined by the outcome of the dice throw, or whether the respondent actually exhibited the sensitive behavior. Using appropriate statistical procedures, the true proportion of respondents answering „yes“ to the critical question can be determined. Validation studies show that sensitive behaviors are admitted to more often than in conventional surveys when the randomized response technique is being used.

It is possible, however, that an unknown proportion of respondents does not answer as directed by the randomizing device. Such failure to obey to the rules of the randomized response technique (RRT) leads to an underestimation of the frequency of the sensitive behavior. Clark and Desharnais (1998) have therefore developed a method to determine the proportion of such cheating respondents. It combines conventional survey techniques with an experimental approach and is based on a between-subject manipulation of the applying random probabilities. The method allows to compute a confidence interval for the true value of the frequency of sensitive behaviors. Ideally, if the rules of the RRT are being followed (which can be tested), the method makes it possible determine the exact frequency of a socially undesirable, embarrassing, or criminal behavior of interest.

In an exemplary experimental World-Wide Web survey, the frequency of tax evasion was determined using the cheating detection technique. As compared to a conventional survey, the results show an enhanced readiness to admit to tax fraud when the randomized response technique is being used. The question for tax fraud was nevertheless sensitive enough to lead some respondents into cheating. The experimental manipulation allowed to determine the proportion of cheaters, however, and a confidence interval for the true frequency of tax fraud could be calculated.

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Knowledge acquisition, navigation and eye movements from text and hypertext

Anja Naumann¹, Jacqueline Waniek & Josef F. Kreams

Studies comparing text and hypertext concerning knowledge acquisition and information retrieval report varying results. However, in relation to knowledge acquisition, linear text tends to be as good as hypertext or even better. Problems associated with hypertext are mainly orientation, navigation and the difficulty of building an overview of the whole material.

Therefore, our objective is to develop a hypertext design which supports the reader in orientation and enables him to build an equal knowledge structure.

In a first experiment hypertexts were compared with electronic linear texts concerning knowledge acquisition, navigation, and eye movements. In the first part of the experiment 28 subjects read one linear text and one hypertext with different content. In the second part, an additional 28 subjects answered questions using a hypertext and a linear text.

As expected, when reading the hypertext version, subjects acquired less knowledge and reported more orientational and navigational problems than reading the linear version. The eye movements also indicated that the navigation process took some attention away from the actual text. In the second part of the experiment, concerning information retrieval, both versions did not differ in correct answers, answering time and knowledge acquisition, while for the linear text version more orientational and navigational problems were reported.

The results show a clear need for a better hypertext design. Furthermore, hypertext seems to show better results for information retrieval than for reading a text with scant previous knowledge, whereas linear text seems to be more suitable for reading through.

Keywords: hypertext, knowledge acquisition, navigation, eye movements

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Beurteilung einer Dozentin in einer telematischen Kommunikationssituation

Paechter, M.¹, Schweizer, K. & Weidenmann, B.,

One of the most obvious differences between teletutoring and on-campus seminars is the missing possibility of a face-to-face interaction between students and the tutor or among students. In virtual seminars, mainly text based communication software is employed for maintaining communication. Therefore, the degree to which a communication partner may be perceived as somebody with personal characteristics (as somebody being socially present) is rather low.

In a virtual seminar of nine weeks we investigated how students' assessments of a tutor change if she is perceived in varying degrees of social presence. The tutor's social presence was varied in four levels: 1) The tutor communicated only text-based with each tutee. 2) The tutor communicated text-based; the text, however, was accompanied by a picture of the tutor corresponding to the respective communication content. 3) The tutor communicated auditorily and text-based. 4) The tutor communicated auditorily and text-based; besides, pictures of the tutor were shown.

During the investigation students received four learning units each covering learning material of a lecture of four hours. Within two weeks students were to finish one learning unit. Activities such as the asynchronous communication between student and tutor, the students' filling in of tests on the learning contents, reading additional texts, and informing about the seminar took place on the net. Every second week and in a final questionnaire students were to assess the tutor's didactic qualifications, knowledge on the subject and consideration for the students. Furthermore, in a final assessment students were to compare the virtual learning situation with an on-campus seminar. It was investigated whether students' assessments differ in the four experimental groups and at different points in time.

The statistical analyses showed an influence of time. With progressing time the tutor was assessed less extremely (positive or negative). The variation of social presence had no influence on students' assessments of the tutor. In the final assessment, however, students in the setting with a tutor's low social presence thought they would have learned better and faster in an on-campus course.

Keywords: Internet communication, social presence, internet-based distance education

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Web Supported Experiments: The Net in the Lab?

Polkehn, Knut¹ & Wandke, Hartmut

Publications in German online research focus on web-based surveys, non reactive measurements and web-experiments.

We describe Web-supported experiments as an additional way in online research. Web-experiments are the attempt to transfer experimental investigations in the virtual world of WWW (Lab in the web). In comparison with it Web-supported experiments use internet-technology in a lab (Web in the lab) to investigate subject's behavior. Using internet-technology means both, browsing the web with a standard browser and scripting for data collection, control of experiment respectively the variation of experimental material.

Web-supported experimenting is under methodological aspects the starting point for the analyzing subject's behavior while navigation. Such analyses often forms the essential part in the usability testing of web-sites. In combination with other methods (e.g. questionnaire, interview or video analysis) we will be able to find out what the problems are in navigation and give hints for a better redesign afterwards. Finally we can test the successful realizing of the new design by a web-experiment with many subjects.

An exact description of people's behavior while navigation for both, macro-navigation (Navigation between documents) and micro-navigation (navigation within the document), requires recording of user-induced events, such as "mouse click", "mouse over", "scroll" or browser functions (e.g. "back") including time-stamp and the actual state of system-properties (e.g. size of screen).

We meet this requirements in our Web-supported experiments by using a web-server locally. Every document of the presented hypertext refers to an external file, which contains scripts for the recording of events and (in case of necessity) for variation of experimental material. Using internet explorer (from version 4 up) makes the creating of the local log up file, containing the data of interest, possible.

Within a series of investigations, concerning the navigation in hypertexts, we were able to learn something about development and use of Web-supported experiments.

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These experiences, technical know how, advantages and disadvantages will be reported and possibilities for improvement are discussed.

Computer Literacy and Attitudes toward the Computer: On the Equivalence of Online- und Paper-Pencil-Assessments

Tobias Richter¹, Johannes Naumann und Stephan Noller

Conducting online-assessment of psychological variables one is faced with the question if and how the measurement is affected by the particular structure of this assessment method. A further problem consists in the (self-)selectivity of samples. In the present study, the equivalence of the online- and the paper-pencil-version of an instrument for the comprehensive assessment of computer literacy (declarative and procedural computer knowledge, self-confidence in using the computer and familiarity with computer applications) and attitudes toward the computer was tested. For that purpose comparisons between four different samples were conducted: one sample of WWW-users ($n_1 = 51$), one sample of university undergraduates who responded online but in a standardized test situation ($n_2 = 25$), one sample of student users of university computer pools ($n_3 = 52$), and one sample of university undergraduates ($n_4 = 104$) who both filled in the paper-pencil-version of the instrument. Although differences in the group means of some of the variables were found, both versions of the instrument can be regarded as equivalent in view of psychometric properties and scale intercorrelations. The results are interpreted in the light of the composition of the subsamples. General consequences for the design of equivalence studies are discussed.

Keywords: Computer literacy - attitudes toward the computer - online-assessment - paper-pencil-assessment

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Online research with children

Ulf-Dietrich Reips¹

It has been noted that in recent years children have become increasingly important participants in research and marketing studies. Likely reasons for this trend are children's higher purchasing power and a heightened interest in opinions and rights of children. The trend goes along with a changed view in western societies: Children are seen as actors in their own right, not as incomplete adults (Scott, 1997).

This changed view has not been adopted yet by most researchers conducting studies that aim at generalizing results to populations of neighborhoods, cities, states, or countries. Many of them might be hesitating to include children into their studies because of a number of methodological particularities in conducting research involving children. Which characteristics have to be taken care of, and how and why online research with children might avoid or soften some of the potential problems and create others, is at the focus of this presentation. It is explained, how so-called "kid's portals", online panels consisting of children and adolescents, and a distributed online/offline research technique can be used in conducting research with children. Two examples of online studies with children from the Web Experimental Psychology Lab (Reips, 1995) are reported.

Reips, U.-D. (1995). *The Web's Experimental Psychology Lab* [WWW document]. Available URL: <http://www.psych.unizh.ch/genpsy/Ulf/Lab/WebExpPsyLab.html>

Scott, J. (1997). Children as respondents: Methods for improving data quality. In L. Lyberg, P. Biemer, M. Collins, E. de Leeuw, C. Dippo, N. Schwarz, & D. Trewin (Eds.), *Survey measurement and process quality* (pp. 331-352). New York: Wiley.

Keywords: Online research, children as respondents, data quality, incomplete adults view, children and the internet, kid's portal, Web experiments

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How Do Web Communicators Work? NETSELECT: A Comparison of Motives and Aims of Five Groups of Web Communicators

Patrick Rössler¹, Nicole Klövekorn & Tania Rebuzzi

The survey presented was performed in fall 1998 at the Department of Communications at the Ludwig-Maximilian University of Munich. The aim was to determine the motives and criteria the various creators or editors of web sites consider when selecting the contents. For a comparison, five groups were chosen: media, political parties, special interest groups, companies and private persons. 206 persons responsible for the selection of contents of web sites were questioned. After being contacted first via telephone or e-mail they were asked to fill out an online questionnaire, which on request also was sent out by e-mail, mail or fax. The random sample was extracted from all German Internet sites listed at <http://www.web.de> and <http://www.dino.de>.

The questionnaire consisted of 26 questions including general usage of the WWW, the maintenance of the own web site and the process of content selection. It also included questions concerning general media usage and technical equipment. Relevant to the proposed presentation are the following variables: target groups; updating, contents and aims of the site; daily working processes and special elements used in the site, and the image of the typical user.

The sites of media target mainly on the users of their traditional medium (51%) and on online users in general (63.3%). The sites mainly consist of the latest news. A major part of their contents are copied from the traditional media outlet. The most important aim of media sites is to inform the user. Companies target mainly clients and buyers (79.5%) and all online users (74.4%). Their sites concentrate on a positive presentation of their company. Political parties intend to reach voters (94.7%) and subordinate organisations (89.5%). They mainly communicate news. Special interest groups target on interested people (65.4%) and members (61.5%). The sites are meant to represent the group and its ideas. Private persons target on people with the same hobbies (76.7%) and friends and acquaintances (67.1%). The contents of their sites mainly consist of links to other sites. The orientation of the media and private persons towards the interests of the users explains the strong influence of their reactions on the site production. However, the influence on the contents weighs heavier than it does on the creative side.

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The paper presents for the first time a comparison of different web site communicators regarding the motives, aims and structures of their sites. Hereby, the many different facets of the term “online communicator“ become transparent.

Key words: web communicators, selection of contents, target groups, user relations

The interpretative paradigm in Online-Research

Gabriele Sandhoff¹

Large agreement prevails over the fact that the social world is constituted by the actions of its members. Thus social facts are concrete actions, since a reflexive relationship between social structure and acting prevails. Quantitative social investigation prescribes standardized procedures, but they only allow a very reduced recording of social reality. A standardized and therefore highly standardized data capture can not always fulfil the conditions of the more complex context character of sociologically investigations and subjects. Consequently we need context-related procedures which are flexible and appropriate for the situations. So they put it in concrete terms.

Corresponding to the inconsistencies of social reality, the case study SIGMA (a virtuell organization) is open and flexible, since the actors manage reality through interpretation and negotiation again and again. Thus social acting of their workers is determined to access to the reality of SIGMA; thereby facts of SIGMA win (more objectively) reality that they are designed over the attributing of meaning of the actors.

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Methodology Feasibilities of Content Analysis for Newsgroups

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Keywords:

Content Analysis , Newsgroups, Media Research, Usenet

Abstract English

The lecture points out the methodology feasibilities of content analysis for newsgroups. This qualitative-quantitative content analysis shows by analyzing topic careers, which topics are of interest in the online publicity during long periods.

The first part introduces in the method, how qualitative-quantitative content analysis is feasible in newsgroups. The second part points out by an example of an empirical analysis, how the topic forced labor is discussed in international newsgroups. The summary sketched the considerations that print media have an influence to the discussion in newsgroups. Sometimes it is possible to detect a spill over effect from the print media to the newsgroups.

Drop-out caused by JavaScript: " I could not have expected this to happen " – A Web experiment on the Reversed Hindsight Bias

Stefan Schwarz¹ (University of Mannheim) and Ulf-Dietrich Reips (University of Zürich)

Abstract

With increasing frequency JavaScript is used in web studies, often with a certain naivety regarding compatibility issues. These technical problems might result in methodological artefacts with some types of online research, and ethical questions have to be considered as well. However, for reasons of design and applicability of a number of techniques, Web experiments should generally be less prone to possible biases, and between-subjects Web experiments even more so than within-subjects Web experiments (Reips, 1999, in press). Consequently, we tested whether a JavaScript version of the Web experiment would result in more or less problems than a traditional CGI version. Therefore we conducted an experiment on a meanwhile well-known phenomenon: the hindsight bias. The hindsight bias is the tendency of people to falsely believe that they would have predicted the outcome of an event correctly, once the outcome is known. Mazursky and Ofir (1990) demonstrated that highly surprising outcomes could eliminate or even reverse the hindsight bias: Participants showed a "I could not have expected this to happen" reaction instead of a "I knew it all along" reaction. Stahlberg, Sczesny and Schwarz (1999) found a reversed hindsight bias when participants learned about a self-threatening outcome. Stahlberg et al. hypothesized that motivational factors like self-protection would play a role in moderating the hindsight bias. To test whether the surprise or the threat of the outcome leads to a reversal of the hindsight bias we conducted a Web experiment where we experimentally manipulated both factors. In a 2 by 2 factorial design (with the factors highly and not surprising outcome vs. highly and not self-threatening outcome) we expected a strong reversed hindsight bias when the outcome was highly surprising and highly self-threatening. The comparison of the condition highly surprising but not self-threatening outcome with the condition not surprising but highly self-threatening outcome should show which of the two factors surprise or threat will reverse the hindsight bias. Results will be discussed.

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Online Research – Acceptability and prevalence

Susanne Spintig¹

Online Research is currently a much discussed research tool which meets increasing interest. Nevertheless, the use of different internet services for research purposes is very controversial. Like all other information sources, internet involves various advantages and disadvantages. Online Research is especially characterized by very dynamic developments in its technology. The necessary generation of new tools and methods is very restrained and is inhibited due to the uncertainty about their enforcement and acceptance amongst the customers as well as the respondents. Thus, the dissemination of this tool is very hesitant and meets with suspiciousness. For the time being, the internet is most of used as an investigation tool; primary research is mainly conducted about the internet use behaviour itself.

The department of marketing has conducted a survey about this topic, in the course of which market research institutes as well as research managers from different companies have been asked about their acceptance and willingness to use Online Research. The results show that Online Research today is mainly used in lines of business related to the Internet as well as target groups with a certain affinity towards the internet. As far as the market research institutes are concerned, methodological problems affect the overall acceptance and dissemination of Online Research. An exception are Online Panels that already today feature promising possibilities of usage. Overall, the results show that Online Research has the potential to win recognition as a valuable research tool in the long run. Whether this will be a complementary or substitute tool regarding other methodologies remains to be seen.

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„You'll find it at Fred Meyer“ – a case study for strategic online-marketing

Birgit Stark¹, Inga Schmidt & Thomas Döbler

From a marketing point of view electronic commerce (e-commerce) is far more than a mere selling and distributing medium. It is a platform for an integrated marketing that takes consumer's needs into consideration while at the same time can help to enforce customer orientation. However, as to the current date, there are hardly any findings about important factors for acceptance, or about possible obstacles or advantages. This holds true for both the dealer's and the customer's perspective.

From a customer's view, it is relatively obvious that advantages (such as the shopping paradise that can comfortably be reached without restrictions of time and space) are opposed by specific disadvantages (such as insecure payment, but also personal risks, unreliable delivery etc). These insecurities are a crucial reason why the majority of (potential) consumers does not buy yet, but is only interested in information concerning products and services instead (the so-called "browsers"). They visit websites of manufacturers and dealers to acquire information in order to confirm their buying decision processes (pre- and post-consumer-behavior). Yet, even if the actual purchase of a product and services today is still relatively rare, for a company's marketing communication the internet may be an important medium for providing information. "Browsers" and "non-shoppers" are potential target groups which must be reached the same way as "purchasers" must be kept.

By referring to a specific example (the supermarket chain "Fred Meyer", in Portland, Oregon) the present study demonstrates which strategies can be used to optimize "business-to-consumer" relations. This relation is examined in all three relevant phases: pre-purchase interaction, purchase consummation and post-purchase interaction. "Fred Meyer" is the fourth largest supermarket chain in the USA with more than 800 stores in 11 states. Their slogan "You'll find it at Fred Meyer" underlines the variety of products available in their stores: drugstore, home improvement center, grocery store, garden center etc. - everything integrated in one comprehensive building. Currently, Fred Meyer's website (<http://www.fredmeyer.com>) is used as a marketing tool only - with limited possibilities to actually shop, but with a lot of information being provided and with a virtual job market to apply for vacancies online.

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The goal of this study is to develop a "business to customer electronic commerce concept" for that company, to test the market and to identify potential products, customers and strategies. 300 computer based telephone interviews build the database to derive customer profiles and online-market-segments. The survey was performed in late 1998, all persons in the sample had internet access, some of them were already online-shoppers, others were previous Fred Meyer costumers.

Ties to a virtual seminar - the role of experience, motives and fulfillment of expectations

Sonja Utz¹ & Kai Sassenberg

Whereas virtual seminars are becoming more and more popular, evaluations still show some problems: A relatively great amount of time is required for the solution of technical problems as well as for coordination. The rate of active participation is low, cooperation is restricted to subgroups, and there are many drop-outs. The question arises whether it is possible to establish stable ties to the virtual seminar, despite technical problems and the lack of face-to-face contacts. The objective of the presented study is to identify factors influencing identification with a virtual seminar. Students from Eichstaett and Goettingen cooperated in a virtual seminar. Asynchronous computer-mediated communication (CMC) was used. There were newsboards for the specific topics. Two questionnaires were issued, one at the beginning and one at the end of the course. The first one measured the students' experience with CMC, their motives for study in general and participation in the virtual seminar and their identification with the home university. The second one assessed the degree of identification with the home' university and with the virtual seminar. Additional scales addressed technical problems, and fulfillment of expectations. Identification with the home university was significantly lower at the end of the course and ties to the virtual seminar were established. Technical problems did not influence identification with the virtual seminar. The decrease of identification with the home university can be predicted by the motives, whereas identification with the virtual course is connected with the fulfillment of expectations. The results are discussed with regard to implications for the creation of further virtual seminars.

Keywords: Virtual seminar, identification, computer-mediated communication

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Online Research in Russia

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An overview of research related activities in the field of online surveying and the computer-mediated communication that have been undertaken in Russia and in the former Soviet Union will be presented. The earliest research was performed in mid-eighties, before the access to global computer networks became available; research was restricted to the analysis of LANs users' activities. Beginning with 1992, systematic online surveying of the Russian-speaking Internet community members is undertaken. For several years surveying procedures were restricted to e-mail mode: questionnaires were sent to the sample members via e-mail and/or published in newsgroups. Beginning with 1998, web surveys have been undertaken as well. Several representative surveys of the Internet users' population have been carried on recently; the methods used are telephone polls and face-to-face interviews. Other methods used include marketing and formal experiments (i.e., DNSs testing to find out the number of unique active web-servers). The pros and cons of different methods and research directions will be discussed. Actual quantitative data describing the Russian segment of the Internet will be presented: some of the data refer to Summer, 1999, the rest to Winter, 1998/1999.

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Online-replication of results from evolutionary psychology research – sex differences in sexual jealousy in imagined scenarios of sexual vs. emotional mate infidelity

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The results from the first online research project conducted at the Department of Psychology, University of Vienna (11/1998), are presented. At the same time to our knowledge this study is the first online-study in the field of evolutionary psychology. A specific hypothesis from evolutionary psychology states the following: men, when confronted with imagined scenarios of mate infidelity in relationships, should react more likely with sexual jealousy or should experience sexual infidelity more distressing, respectively (for reasons of paternity confidence), whereas women should react more likely with emotional jealousy or should experience emotional infidelity more distressing, respectively (for reasons of resource interests). In recent years, this hypothesis has been tested extensively and cross-culturally in studies using paper-pencil questionnaires and using campus samples mainly from the United States, China, the Netherlands, and Germany.

The (explorative) objective of the present study was, whether (or to what extent, respectively) the results from these prior investigations – sex differences in sexual jealousy – could be replicated, when using a sample from a comparable underlying population, but for the first time conducting such a study within the framework of an internet-based questionnaire. Using an online-questionnaire should result in a self-selection bias for study participation more pronounced, but at the same time in a more distal investigator-participant-interaction compared to a paper-pencil questionnaire survey.

For this online-replication a short HTML-form was generated, which comprised German translations of the items – so-called scenarios of jealousy – used by Buss et

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al. (1992) and Harris & Christenfeld (1996). The online-questionnaire was made accessible under address www.unet.univie.ac.at/~a9425748/fragebogen/. A large simple random sample (n=4,285) from the population of students at the University of Vienna, which had Internet and Internet Services access (including an e-mail account) at the time of the investigation (approx. 36,000 out of a total of approx. 95,000 students at this university) was contacted via e-mail, was referred to the URL of the online-questionnaire, and was asked for study participation. 239 of the questionnaires received were included for data-analysis, which equals a participation rate of 5.6%.

The main results of this online-study are compared with published results from research in evolutionary psychology, and are discussed particularly with regard to important features of online-research validity (quality of data): (1) participation rate (in connection with internet utilization behavior and participation motivation of the population under study); (2) sample characteristics (sex, age, and studies, as stated by the participants) with regard to sample representativeness; (3) portion of excluded responses (multiple, non-plausible, and „joke“ answers). Additionally, some further details relevant for online-research are discussed: (4) course of the response characteristic of the sample; (5) some sporadic negative responses (complaint mails) and handling of these by the investigators; (6) potential effects of the specific form of distal interaction (which is inherent for online-research design) upon openness and unbiasedness of the questionnaire data.

Keywords: evolutionary psychology, online-replication, questionnaire, quality of data

E-mail surveys: tackling non-response-problems by monitoring the mailing-behavior

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Surveys based on electronic mail-questionnaires or WWW-questionnaires which are announced by e-mail are counted now in the basic and most popular methods of online research. Companies and researchers both realized the economic reasons for utilizing such methods. A serious problem however are the unsatisfactory response-rates (Tuten, 1997: 5). Rates of only 15-20 % are frequently for bigger samples. Recent examples are an e-mail survey at the university of Mannheim (Germany) and a WWW-survey at the university of Cologne with an e-mail, addressing the potential participants. In both cases the samples were drawn among the number of the (known) web-users of each university and in both cases not more than 15% answered the questionnaire.

While there is a broader discussion of how to design an electronic mail to generate the maximum answer rate (Bosnjak/Batinic, 1999), I want to concentrate on how to monitor the mailing-behavior of the sample. This should be preliminary to those considerations for e-mail-design and form. If the mailing behavior of the potential respondents is checked before, during and after the survey, substantial data is collected to interpret the actual response-rate. This works however especially in samples, representing a known totality of users. The paper contains a practical example of how to manage such a monitoring process.

Keywords: e-mail-surveys, non-response problems, mailing behavior

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On the psychometric quality of new ability tests administered using the WWW

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Internet or ordinary ability testing methods differ with respect to the nature of the testing situation on several important factors (e.g., person mediated communication and subject behavioral control). Ordinary testing methods ought to be preferred in psychological experiments, however, there are important considerations for choosing alternative (i.e., internet) testing methods. The conditions that may warrant the use of internet testing include necessary resources, availability of experts and bridging geographical distances.

In some applied settings, e.g., personnel selection, the goal of measurement is to select the best person from a pool of highly capable subjects. With ordinary testing methods there are frequently not enough experts available or the experts are too costly to assist in constructing, calibrating, evaluating, and validating measurement instruments. New knowledge tests were developed for internet distribution to make use of available experts and gather the largest sample possible for item evaluation and test construction. The new knowledge tests were developed in science and economy - two domains where, to our knowledge, no convenient instruments are available. Each domain had two parallel tests in two languages and used self selected samples participating via internet.

The quality of data was critically evaluated on several levels with different methods. In addition to procedures from classical test theory, probabilistic procedures were applied to the data. Both domain tests were evaluated for a priori internal structure. Specifically, difficulties and validities on an item level could be compared to expert ratings of difficulty and validity for the economics tests. In both domains data gained by internet administration could be compared with data gained

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using ordinary methods. In the science test the internal structure was tested for robustness using a quasi-experimental manipulation. Finally the equivalence of parallel tests was determined comparing relevant statistics. To preliminarily validate the new measurement instruments, biographical questions (e.g., education level, relevant prior knowledge, and proxy variables including reading of newspapers and journals) for the interest in the respective domains were used. The results of the analysis essentially support the supposition that internet administration yields quality data, hence, it seems appropriate to use the internet as a testing medium for the means outlined here. Future investigations include calibrating test results to real world behavior. Additionally, future efforts to vary the item format from traditional yes/no or multiple choice response choices will be tested along with an expansion of the knowledge structure.

Keywords: Calibration, Equivalence, Validity, knowledge tests