Marketing Research Using Multimedia Technologies

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INTRODUCTION

Marketing research is the process of systematically gathering, analyzing, and interpreting data pertaining to the company's market, customers, and competitors, with a view to improving marketing decisions.

Multimedia technologies and the Internet have created opportunities previously unimagined in marketing research practice. Electronic or online marketing research takes one of two forms: research about the Internet and research on the Internet. Generally, marketing research activities cover the provision of relevant information to identify or solve marketing problems in the areas of market segmentation (e.g., selecting target markets or segments) as well as product (e.g., preference measurement for concept testing or new product development), pricing (e.g., identifying price thresholds), promotion (e.g., media and copy decisions), and distribution (e.g., location of retail outlets) decisions (Malhotra & Birks, 2005).

This article aims to:

- Review the impact of applying multimedia technologies to classic marketing research problems.
- Present the different types of marketing research activities about the Internet as the most prominent application area of multimedia technologies.
- Discuss the use of multimedia in online surveys in comparison to the traditional paper-and-pencil approach.

The main contribution of the article is a discussion of advantages and challenges provided by innovative multimedia and network technologies for marketing researchers. Moreover, we present cues for improving the quality of surveys.

The remainder of the article is structured as follows: First, we present examples of the application of multimedia technologies to illustrate the impact of multimedia on classic marketing research tasks. Subsequently, Web log mining, Web usage mining, and Web content mining are introduced as common marketing research fields directly concerned with research about the Internet. Then, benefits and challenges of online surveys are reviewed. Thereafter, we discuss response errors and ethical questions as crucial issues for the quality of data gained by online surveys. Finally, we draw conclusions and provide a spot on future developments.

USING MULTIMEDIA TECHNOLOGIES FOR CLASSIC MARKETING RESEARCH TASKS

Applying Multimedia in Preference Measurement

Multimedia technologies enable the combination of different types of stimuli, such as text and visual representation, as well as various choice alternatives. An often decisive plus of using multimedia technologies in marketing research is the ability to interact with the respondent. A salient example of the virtue of this fact is the adaptive conjoint analysis (ACA) from Sawtooth Software, which facilitates the measurement of customers' preferences for different product or service designs. ACA customizes each interview so that each respondent is asked in detail only about those attributes of greatest relevance to him or her.

Figure 1. Screenshot from the ACA Software (with kind permission from Sawtooth Software Inc.)

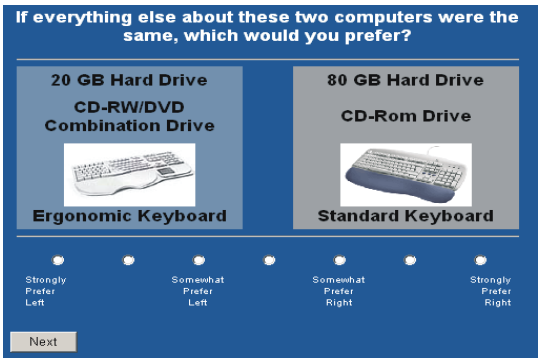

Figure 2. Screenshot of flash animation of a virtual seat remote control concept (with kind permission from rc research GmbH and Lufthansa AG)

A screenshot of a pair-wise comparison from the ACA of Sawtooth Software is depicted in Figure 1. Two complex products have to be compared according to their desirability.

As indicated in Figure 1, various types of information can be combined in the use of multimedia. In this example, a combination of visual and textual stimuli, and the possibility to answer by means of ticking a checkbox, is dovetailed into the multimedia. Of course, the annotation of further multimedia technologies, such as sound, is easy to conceive.

Applying Multimedia in Concept Testing

Product concept evaluation is traditionally done using physical prototypes, which is very costly and time-consuming. Interactive animations of detailed prototypes can be used to test preliminary product concepts (see Figure 2). Even for products that already physically exist, virtual prototypes are useful. Particularly, cost savings and speed advantages may lead to a higher degree of parallel prototyping and creativity (Bock & Treiber, 2004). The predictive power of Internet-based product concept testing has been investigated by Dahan and Srinivasan (2000). It is shown that virtual prototypes using visual depiction and animation lead to similar results to those produced by physical prototypes.

Applying Multimedia Technologies for Virtual Shopping Environments

Virtual shopping environments can be used to study the in-market performance of a new product at the pre-launch stage. In most cases, 3D virtual environments are used to replicate the in-store shopping experience. The participant is placed in a virtual store, where he or she can walk through the store, interact with his or her environment, and purchase all the products he or she wants. These systems offer significant advantages to the researcher because he or she has complete control over all aspects concerning the shopper's environment as an experimental design. According to Bock and Treiber (2004), shopper research systems nowadays differ greatly in the complexity of the store simulation, the interactivity, the mode of presentation (panoramic projections of virtual stores in a "cave" visualization facility versus wide-curved screens and head-mounted displays), the mode of data collection, and budget considerations. Campo, Gijsbrecht, and Guerra (1999) summarize validation studies and demonstrate the ability of virtual shopping environments to accurately reflect in-store shopper behavior.

USING MULTIMEDIA TECHNOLOGIES FOR WEB MINING

Web mining aims to identify interesting patterns of consumers' behavior (Web usage mining), competitors' behavior (Web content mining), and the structure of the vital information space, which is a marketplace in itself (Web structure mining), but also an arena for marketing communication, which is achieving increasing importance.