QUALITATIVE MARKETING RESEARCH THROUGH USABILITY TESTING

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***Abstract**: Usability is an attribute of any good product, just as its functionality. It refers mainly to the utility of a product for its indented users, as well as to its ease of use. And whilst a correct functionality is critical for the commercial success of any product, its value comes through the human needs that it fulfills, which is determined through various marketing research techniques. In parallel, the IT&C community has developed in the last two decades its own type of research, called usability testing, used mainly to evaluate interface ease of use and all usability problems associated with.software products. This article aims at finding the right place for usability testing and usability professionals in the marketing community, as well as drawing a wider picture, from a marketing research perspective, on one of the most popular topics in IT&C community for the benefit of marketing scholars and professionals.*

***Keywords**: usability, marketing, marketing research, computer human interaction, qualitative research.*

One of the general usability principle observes that „if people don't understand the functions of a given product, they will not use it; if it complicates their existence, as well they will not use it; and if they are current or potential customers they will only buy those products that are easy to use and that bring an obvious improvement to their lives" [14].

Usability is inherent in any product or service, just as well as functionality. And, whilst functionality defines what a specific product or service will (or is expected to) accomplish and a functionality test will try to determine weather its target performs according to its specifications (and expectations), accordingly a usability test is a tool used to identify how buyers will use the product or service to satisfy their needs and expectations. A correct functionality is critical, but not enough to ensure market success. Its value for customers comes from the needs it satisfies, as well as the degree of satisfaction they derive from it – and only if the satisfaction they get is at least equal to what they expect the product will be considered successful and they will continue to buy it and recommend it other people. And the satisfaction that people get after using a IT&C product is determined with usability testing.

The goal of usability testing is usually the improvement of the product under test. A secondary objective is the improvement of the design and manufacturing processes for that particular product, or other in the same line, and this is one of the reasons that usability testing professionals feel that this tool is different from marketing research, as these „focus on the investigation of marketing phenomena and not product improvement"[13]. Other objectives of usability testing include ease of use, acceptance of new or improved tools, portability or other interface problems between users and products or between the product under test and other items, with which it could or should come into contact.

Usability testing is usually performed with a small sample of respondents, which have to be part of the target customers of the product or service subjected to the test. These will be asked to perform typical product functions and to use it as they will in normal, daily activities, in a controlled environment, under the supervision of the test team, which will record everything they do during the testing, as well as everything they say. Not only will their test performance be analyzed, but their verbal assertions and body language will be subject to scrutiny after the test is completed. Data generated in this process are analyzed from both qualitative and quantitative perspectives and there are presented in a Usability Test Report,

together with all the data (test performance, verbal comments and body language) to decision makers, in order to get valuable information about product strengths and weaknesses. As a point of observation, qualitative data is very rich and complex and their analysis is usually a lengthy process, while quantitative data is usually more general in nature and is used only as an overview of the phenomena under scrutiny, as the samples used in usability testing are not representative for the consumer population of the product.

In general, in order to have a usable product, this has to be easy to use, its functionality easy to understand and easy to remember. In addition, it has to satisfy efficiently the need that it addresses, to allow for a quick update or correction anytime such an action is deemed necessary, to prevent proactively human errors and recover quickly from detrimental events, and to have an attractive design [12]. And, what is most important to keep in mind, is that users are those who determine all these product qualities that make up a usable product. Researchers alone, even experts in usability testing or a certain product's industry cannon establish, by themselves, whether a specific good is going to be perceived as usable or not.

In order to bring to market a usable product, usability testing have to be performed during its entire life cycle, starting with the design and implementation phases up to the last revision [8]. All the usability related attributes have to be considered at all times in a product's life cycle, and iterative designs and implementation phases are almost unavoidable, as they are needed to correct late usability problems identified in successive testing phases.

Usability testing is done using several different approaches, but all have a number of similar characteristics [15]:

- their scope is to increase the perceived usability for the indented users target of a certain product. This implies a significant improvement of product efficiency, starting with the design and development phases of product life cycle.
- the participants (sample) are selected from a targeted population segment. A typical test includes between 8 and 16 participants per sessions, but it has been argued that most significant data appears even with samples of five persons [19].
- the participants do real, common tasks and activities associated with the tested product. The activities tested must be the same activities expected by the real users of the tested product. This involves the fact that the testing must start with an exploratory research of the target segment in order to identify the uses of the tested product, the estimated frequency of those activities, their environment and trigger influences [18]. From this data test cases are derived, realist and relevant for the tested product target population. These cases are translated into testing scenarios, which will guide participants (respondents) during tests. These must solve as many as possible utility problems, based on potential worrying issues of the producers and/or problems identified by the specialists in that domain.
- to observe, record, and analyze subjects' tasks performances. The whole activity of the subjects in the testing laboratory is recorded for subsequently comparisons and analyses. Analyze include both commentaries and the performances during the testing process. In some variants of usability testing, the participants are asked to verbalize their thoughts, including reasoning and observations during task performance.
- data resulted from the testing phase is analyzed using quantitative, psychological and behavioral techniques, in order to identify usability problems and, possibly, their potential solutions.
- the information resulted from usability tests is used to improve the qualities, the usability and the production process of the tested good. Thus, a utility test is considered closed only when the information resulted after its application is used in practice to improve the respective product or service.

Usability testing that by their very nature ensures high usability for all products they employ it, so both producers and customers will benefit greatly from their results [20]. Users gain satisfaction from products with a steep learning curve, which allows maximum ease of use. Producers and sellers gain by increased sales, brought on by improved customer satisfaction, on both products that have been subjected to usability testing and other company products, which will benefit from a better corporate image, increased customer awareness, scale economies in later life cycle stages, lower customer care costs, as well as a more focused and less extensive update process [17].

As a result, the customer are the first to notice the improvement of product usability and, in many cases, usability is a more significant factor in buying behavior than price, or even functionality [2]. Positive experiences with any kind of product or service are very important in customer loyalty, leading to significant increases in customer lifetime value, not only in regard to a certain product that benefited from usability testing input, but for all of those companies' products. The same stands true in reverse: negative usability experiences lead to loss of sales and a diminished company image, not only directly from those dissatisfied users, but from their friends and acquaintances as well, through world-of-mouth [3]. Longtime organizational success relies on customer loyalty and customer satisfaction and product usability is paramount for both.

Marketing research on the other hand, as the first function of marketing, is long established as a mandatory tool of competitive market success [1]. It aims at identifying threats and opportunities from outside the company, strength and weaknesses from within. The European Society for Opinion and Marketing Research (ESOMAR) defines marketing research a "a key element within the total field of marketing information, which links the consumer, customer and public to the marketer through information which is used to identify and define marketing opportunities and problems; to generate, refine and evaluate marketing actions. Marketing research specifies the information required to address these issues, design methods for collecting information, manages and implements the data collection process, analyses the results and communicates the findings and their implications" [7]. As it is easily observed from the usability testing description made in the previous pages, all these attributes can be easily attributed to usability testing, making it a textbook tool of marketing research.

In general, marketing research is employed to identify opportunities and problems and to generate and refine marketing actions, a distinction used to classify marketing research into problem identification research and problem-solving research.

Marketing research is usually separated in qualitative and quantitative. We argue that usability testing can be assimilated to qualitative marketing research, an assumption explicitly refuted by Jakob Nielsen, one of the leading figures of usability testing today [14]. Distinction between qualitative and quantitative analysis is usually based on the possibility of numerical analysis on data generated by marketing research [4]. The term qualitative research is loosely used to refer to research whose findings are not subject to quantification or quantitative analysis. More significant might be the fact that qualitative research is characterized by small samples, while quantitative research uses large, statistically significant samples of data. In essence, many managers are reluctant to base important strategy decisions on small-sample (qualitative) research, because it relies so greatly on the subjectivity and interpretation of the researcher [11].

Qualitative research encompasses a variety of methods that can be a applied in a flexible manner, to enable participants to reflect upon and express their views or to observe their behaviour. It seeks to encapsulate the behaviour, experiences and feelings of participants (just like usability tests) in their own terms and context [10]. Qualitative research is based on a set of ideas and associated methods from the broad area of psychological sciences [5], used to gain access to individuals' subconscious and unconscious levels. So, while individuals may present a superficial explanation of events to themselves or others, these methods sought to dig deeper and penetrate the superficial. At the same time, qualitative research analysis aims to gain a holistic understanding of the world-view of individuals tested.

Qualitative research techniques are usually classified as direct, which assume that the purposes of the research process are disclosed to the participant or are obvious, given the nature of the interview, which consist mainly of focus groups and in-depth interviews, and indirect, where the purposes of the research are disguised from the participants, in order to obtain more "genuine" responses and reactions, which include observation, mystery shopper and ethnographic techniques.

The following table offers some of the main characteristics of usability testing, in the context of qualitative and quantitative marketing research attributes, as presented by Carmen Bălan in Cătoiu et al (p.84) [4].

No.	Comparison criteria	Qualitative Marketing Research	Quantitative Marketing Research	Usability Testing
1	Research objective	Understanding of marketing phenomena, identification of motivation	Data quantification and extrapolation of data for the entire population surveyed.	Identify usability problems and how to eliminate them.
2	Sample size	Small	Large	Small
3	Amount of Information from each Respondent	Substantial	Varies	Substantial
4	Requirements for administration	Interviewer with special skills	Interviewer without special skills	No interviewer
5	Type of analysis	Subjective, interpretative	Statistical, numerical	Subjective, behavioral
6	Hardware	Audio & video recorders, pictures, discussion guides	Questionnaires, computers, printouts	Audio & video recorders, motion trackers, test cases
7	Degree of replicability	Low	High	Low
8	Researcher training	Psychology, sociology, social psychology, consumer behavior, marketing, marketing research	Statistics, decision models, decision support systems, computer programming, marketing, marketing research	Psychology, sociology, computer programming, decision support systems
9	Type of research	Exploratory	Descriptive or causal	Exploratory and causal
10	Data acquisition model	Unstructured	Structured	Unstructured

Table 1: Usability Testing characteristics in the context of Qualitative and Quantitative Marketing Research

As it can be observed from Table 1, third and last columns are almost identical, and we can conclude that a usability test matches most of the qualitative marketing research criteria. We must keep in mind that even some marketing research tools imply the lack of an interviewer, for instance surveys done using online or mailed questionnaires. In addition, some ethnical research techniques imply the use of test cases and scenarios, just like usability testing and the skills required from a researcher imply a mix of qualitative and quantitative analysis. And, what it is most important, the scope of marketing research is not limited to general information about phenomena [9], but goes into as much detail to uncover causes, predict patterns and discover solutions for all problems investigated.

At this point, qualitative researchers are count amongst their tools instruments such as in-depth interviews, focus groups, brainstorming sessions, mystery shopper, and customer observation. I believe it is time to pay serious attention to the newest arrival in this family – usability testing – a technique targeted to IT&C products, but which can be successfully employed in a large number of market research areas.

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