End-user involvement in opportunity detection for new Mobile tourism services; new approaches from post-modern psychology

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Abstract

Recent studies advocate for the participation of end-users in the opportunity identification phase in both New Product Development (NPD) and New Service Development (NSD). Some authors argue that lead users, so called expert users, are the ones that have to be involved, whereas other wishes to incorporate lay users. Other authors even question user's ability to innovate, and advice against using end-users in the development process.In this research work, the authors want to analyse user involvement in the opportunity identification phase for new tourism services based on Internet and mobile interactive applications. The main contribution of this work consists in the use of experimental techniques based on Socratic Paradigm applied on constructivist psychology to obtain systematized results from end-users' contribution. These experimental techniques have been borrowed from disciplines like usability and user experience (UX) and authors claim to get better results than current techniques in opportunity identification.

Keywords: Opportunity detection; new tech-based service development; end-user driven innovation; user participation; inductive processes; constructivist psychology.

1 Introduction and theoretical background

1.1 End-user driven innovation

Recent studies advocate for the participation of end-users in the opportunity identification phase in both New Product Development (NPD) (De Moor et al., 2008) and New Service Development (NSD) (Lüthje, 2004). Some authors argue that lead users, so called expert users (Lettl, 2007), are the ones that have to be involved, whereas other wish to incorporate lay users (Lüthje, 2004). Other authors even question user's ability to innovate, and advice against using end-users in the development process (Christensen et al., 1996).

Traditional ‘technology push’ approach in NPD and more recently NSD used to mislead to product (and services) solutions that fail to match with customer needs. That approach also minimized the importance of social and user-related dimension in the context of tech-based NPD (De Moor et al., 2008). On the other side, market pull approach has derived in literature to introduce the end-user as an expert (consumer expert) in the process NPD, adopting different role in each phase, not only in incremental innovation but also in radical innovation (Lettl, 2007). The consumer’ has always been important to a certain degree, companies are now even more forced to put users (as key stakeholders) and customer- understanding at the core of their innovation strategies in order to sustain a strong market position and to pursue product development that doesn’t neglect the user. As a result, the traditional user research arsenal has also been extended with alternative analytical methods and tools from various disciplines (such as design, foresight, anthropology ...).

Some authors propose changing the user role (De Moor, 2008): active and dynamic (co-)production, ‘push’ versus ‘pull’ approaches, user as innovator, 'user-driven' and 'user-generated' innovation. Present work aims to focus on the first stage of ‘user involvement’ prior-to-launch in NPD/NSD process: *Opportunity identification.*

1.2 Considerations from post-modern psychology

There are recent studies from User Experience (UX) field considering, under certain circumstances and assumptions, the user as an expert (as a consumer expert of the future new service or product). Some authors (Pifarre et al., 2007), propose a change of paradigm to study user experience from the classical hypothetic-deductive paradigm to a Socratic paradigm.

The key of Socratic techniques success in clinical psychology is the therapy adaptation to the user (patient), contrarily to the classical psychotherapy conception which bases its success on patients’ adaptation to the therapy (the better users adapt the better the results). In order to adapt the therapy to the user the constructivist model doesn’t work with previously stipulated programs or specific guides regarding pathologies. This school applies techniques based in the Maieutic conception of the therapist rather than an hypothetic-deductive exercise.

What characterize the Socratic model in psychotherapy is that solutions use to come from the client not from the psychologist. The information the psychologist works with to achieve a psychological change is completely generated by the user, this way, the psychologist can be sure the information is always significant.

2 Focus Socratic Laddering

Based on Socratic Paradigm the Focus Laddering Socratic technique is proposed for opportunity detection. That technique performing consists in three steps:

1.-Elicitation of the elements: The test starts from a blank template for the elements (preliminary ideas). The interviewer will ask the users to mention what aspects of the context situation they like best or which help them in their goals or usual tasks. The elements mentioned need to be summarized in one word or short sentence.

2.-Elements definition (or dialectical laddering application): Once the elements have been assessed, the qualitative phase starts. The interviewer reads out elements from a list to the users and applying the laddering interviewing technique ask for a consensual justification for each one of the elements (Why is it a desirable element? Etc.). The answer must be a specific explanation regarding the concrete characteristics that make the mentioned element more desirable to the user.

3.-Marking of elements: Once the list of elements is done, the interviewer will ask the users to mark individually each one from 1 (lowest possible level of satisfaction) to 10 (maximum level of satisfaction). Individually, users could abstain from voting if the element doesn't fit to or it is no relevant to its personal desires. Nevertheless, the mean score is calculated only taking into account those of the users who voted.

3 Methodology

In order to generate some new (wild) ideas for future tourism services for interactive mobile applications and Internet, users have been involved in a series of focus groups. The research is based on "End-user comparison methodologies". The experiment is about comparing the results of different groups of end-users applying different techniques. Each group has been formed by people with a specific profile: young people tech savvy, having previous experience with Internet mobile applications.

First group has been submitted to classical techniques defined in *Foresight Methodologies* (Popper et al., 2008) and widely accepted within the scientific community for creative processes. In this case, a combination of qualitative method, *brainstorming,* with a semi-quantitative method, *voting/polling,* has been designed to be applied for a first group of end-users.

A second group has been submitted to the experimental technique proposed in that work: Focus Socratic Laddering developed under the Socratic Paradigm (post-modern psychology). This technique is also based on both qualitative (subject needs exploration through socratic-conducted interviews) and semi-quantitative method.

Participants have provided information about the applications usage in the second main phase of a travel: *Once on destination* (pre and post trip will be introduced in future work).

Finally, in both workshops, users were asked to evaluate each new mobile idea for future application as a tourist (tourist profile) but also for everyday use (everyday user profile). In both cases workshops lasts 90 minutes.

4 Intended results

4.1 Group 1 (Group Control):

Mobile for recommendations and suggestions. Specific for restaurants and foods (1.7), transports and tours (1.5). *Location-based services,*. To get real-time and reliable information (1.1 for apartments, prices, 1.2 for statistics and local government info,), put information (photos video, blog 1.4), traceability (1.8) and augmented reality (1.11). *Mobile as universal ID*: For payments (1.3), to share all relevant information about medical history (1.12) *Real-Time Information:* Feature for bidirectional translation to enable communication with local people (1.6), currency convert (1.9), for on trip social networking (1.10), specific norms and rules (1.13)

4.2 Group 2 (Experimental technique):

Park Help (2.1), Traffic Jams, Congestions (2.2), Location Based Services (places of interest, restaurants, tours, non touristic places and discotheques), 2.3, Multimedia guides for interesting places (2.4), Objective Information (2.5), Mobile Payment (2.6), Mobile as universal ID (2.7), People and personal objects controller (2.8).

In the first place, it is possible to observe that the number of ideas is slightly lower in the Focus Socratic Laddering, for the nature of this technique. It is possible to find an explanation in dialectical laddering. When applying dialectical laddering, interviewer is trying to make the participants reflect in the ideas, group them in concepts by itself. It also exists a post-treatment from the analyst that allow grouping concepts by meaning (not by the word or phrase that is tagging the meaning). Hence, the group control with brainstorming is giving 13 ideas and in Socratic Focus Laddering 8.

5 Results Comparison

It is interesting to take for instance the idea: *"Mobile for recommendations and suggestions*: Specific for restaurants and foods", *recommendations should be filtered depending on the user profile, budget, taste, and localisation* from the Brainstorming session. That is all information gathered in the session concerning this idea. A similar idea came to the surface in Focus Laddering Session, but, it was included in the *LBS*, *Location-Based Service* (Element 2.3), Element 2.3.2 "LBS – Restaurants", it means that information concerning recommendation first of all must be geolocalised, and then, that kind of service must contain the feature of booking table and to have access to some kind of rating (made from both, local people and other tourists) and price information must be available. Filtering capabilities for this application must contain also not only distance and time to get the restaurant, but price, people and profile of the restaurant consumers, profile, etc. But in addition, the application must be able to provide that kind of information offline, due to roaming cost issue. On the other hand, Brainstorming session ideas rest superficial because laddering it is not applied, users are focused in a point and it is difficult that they can move away from it, also they don't deep in to details. That fact is linking to numeric punctuations and scores. From

this experimental test came to the surface a lot of qualitative information but scores were introduced in order to have some quantity information. But the reliability of votes in brainstorming session is supposedly minor than in Focus Socratic Laddering, so the first one people is scoring generalities and not its concretion. As it is shown in the score analysis, punctuations in Focus Socratic Laddering, for everyday user is commonly best ranked thanks to the fact that user has more internalized the idea proposed. For example, the idea 2.8, "*People and personal object controller*", have the maximum punctuation in both cases, rated as a tourist profile and as an everyday user. An on the other hand, ideas in Brainstorming session were rated in average better as a tourist profile than as a user (i.e. in Cluster 2, 21 votes for good idea as a tourist and only 10 good as an everyday user).

6 Conclusions and future work

Focus Socratic Laddering helps to obtain an idea that could be considered as a preliminary specification of a new ICT application. Also it can help extract end-user latent needs (Ideas are better marked as an everyday user). Nevertheless that process needs an expert interviewer. Authors will follow that research with more experiments using different techniques as a Group Control, different user profile (i.e. technician experts vs. End-users) and also in different experiment domains (i.e. Mobile internet applications for eHealth, mBanking, etc.).

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