

SHOPPING UNCERTAINTIES IN A MOBILE AND SOCIAL CONTEXT

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Abstract

We conducted a qualitative user study with 77 consumers to investigate what social aspects are relevant when supporting customers during their shopping activities and particularly in situations when they are undecided. Twenty-five respondents (32%) reported seeking extra information on web pages and forums, in addition to asking their peers for advice (related to the nature of the item to be bought). Moreover, from the remaining 52 subjects, only 6 (8%) were confident enough to make prompt comparisons between items and an immediate purchasing choice, while 17 respondents (22%) expressed the need for being away from persuasive elements. The remaining 29 respondents (38%) reported having a suboptimal strategy for making their shopping decisions (i.e. buying all items, not buying, or choosing randomly). Therefore, the majority of our participants (70% = 32% + 38%) had social and information needs when making purchasing decisions. This result motivates the development of applications that would allow consumers to ask shopping questions to their social network while on-the-go.

1. Introduction

Shopping can be seen as a social activity. When conducted with friends or family (henceforth called *social shopping*), it supports quality time with peers [4] and often leads to purchases that one would not have been made alone [5]. Furthermore, many shopping activities are often conducted in physical shops rather than online². Being physically in the shop allows buyers to fully *experience* (e.g., with smell or touch) the product or the service before committing on buying [2].

We shall highlight two challenges that prevent large-scale adoption of m-commerce applications: lack of technological standards [3] and *limited understanding of a shopper's context*. In this paper, we address the second challenge. In particular, a recurrent issue when designing applications for social and ubiquitous activities is related to understanding the **moments of need** when users might require support. O'Hara and Perry [6] studied the moments when shopping impulses are deferred, demonstrating how transactions are often deferred when there is a lack of information. They also highlighted how shopping is a social and collaborative activity and how shoppers often deferred purchases because they wanted to ask their friends and relatives for advice.

The study presented in this paper extends O'Hara and Perry's work: while they asked subjects to document situations in which they deferred a purchase, we focus on situations where consumers are physically in the shop and are **undecided on what to buy**. Particularly, we are interested in investigating the **role that the buyer's social network plays on how s/he solves this particular moment of impasse**.

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²In the third quarter of 2008, the Department of Commerce revealed that U.S. retail e-commerce sales totaled \$31.6 billion, adjusted. E-commerce sales accounted for 3.1 percent of total sales [8].

2. Methodology of the study

We conducted a combination of qualitative research methods including an online questionnaire and interviews *in situ* with a sample of consumers in Barcelona, Spain. The questionnaire contained demographic questions (*e.g.* age, gender and occupation of the respondent), followed by shopping related questions. The two items that represented the core of the questionnaire are: 1) **Q1: What do you do when you are out shopping and you are undecided between different options?** and 2) **Q2: How important are your friends and family members' opinions in influencing your shopping choices?** In the introduction of the questionnaire, we emphasized to our respondents that we were interested in shopping situations that were not repetitive (*e.g.*, buying grocery items), and where they were not acquiring unique and expensive items (*e.g.*, buying a car or a house). Additionally, we framed Q1 with a specific task (*e.g.*, being in a shop with the purpose of buying something and being undecided), because we wanted to focus only on shopping activities where the buyers' decision processes would follow rational criteria (*e.g.* buying the cheapest, the most fashionable, the most durable, etc., item with the smallest effort). We are aware that in many shopping situations buying decisions are taken regardless of objective standards (see for instance the interpersonal dilemmas described by Prus [7]).

Seventy-seven people (m: 56, w: 21) filled the online questionnaire. Their median age was 32 years (min: 22, max: 50) and the occupation of respondents was fairly diverse, ranging from administrative assistants, designers, engineers, researchers, managers, students and accountants. From this sample, we selected 13 subjects who would represent the highest variability in occupation, gender, and age. These subjects were further invited to an interview session where we elicited additional information about the participants' shopping behaviors. The interviews were conducted in the shops typically visited by the interviewees in order to place the conversation in the natural shopping location. With this mixed sample and situated context, we were hoping to address as many shopping-related factors as possible.

3. Results and Discussion

The answers to the above-mentioned research questions (Q1 and Q2) were manually categorized by grouping responses with a similar argument – but eventually different formulation. Figure 1 summarizes the results with respect to **Q1**. In the Figure, we have classified the participants answers into 3 categories: 52 respondents (68% of the sample) reported using one or multiple **heuristics**³ to solve the moment of impasse (category 1); 20 respondents (26%) declared they would **seek extra information** beyond what was available at the moment (category 2); and 5 respondents (6%) reported looking for information in addition to the heuristics (category 3). Moreover, we have identified a number of subcategories in each of these categories.

Heuristic Category 17 respondents (out of the 52) said they would *go home and think some more*⁴. Another group of 17 respondents (13 + 4) reported that when undecided, they preferred *not to buy*. Ten respondents (6 + 4) reported carefully evaluating the items by *comparing* the price, the quality of the materials, etc., and finally choosing the cheapest item or that with the best price-quality ratio. Finally, 9 respondents (5 + 4) said they would simply *buy all* the items, assuming their price was reasonable in relation to their budget, while 7 others reported simply buying one of the items at *random*, without spending too much time thinking about it. These results indicate that *most participants had a suboptimal methodology to promptly solve the moment of impasse (i.e., choose items randomly, buy all, give up choosing), and only 10 felt confident enough to choose among the items by comparing them.*

³None of the heuristics indicated the need to look for extra help or information.

⁴It wasn't clear if this thinking involved consulting extra sources of information or not. We assigned them to the heuristic category because the answers revealed an inclination towards expressing the need to be away from persuasive elements.

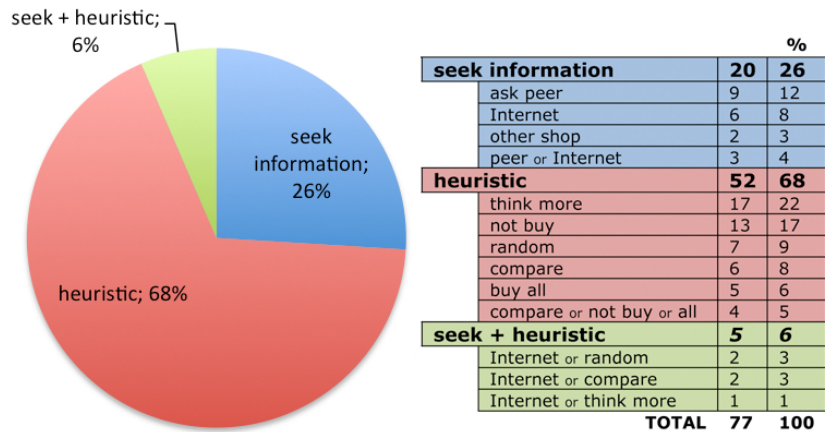


Figure 1. Left, pie chart of the responses collected for Q1. Right, details of the individual responses for each category.

Seek Additional Information Category Participants in this group invoked two major sources of information: 12 participants (9+3) reported *asking advice to their friends or family members*. Another 9 respondents (6 + 3) reported *seeking information on the Internet*. Only 2 respondents said that they would *browse more shops* in order to find better deals. Figure 1 summarizes the results of Q1.

If we merge those who explicitly reported seeking information and those who were not confident when comparing items and making a purchase decision promptly – by not buying anything, buying randomly, or buying all, we obtain that a total of 54 respondents (20+5+13+7+5+4), corresponding to 70% of the sample, reported not having an optimal strategy when uncertain on what to buy. This result supports the idea that consumers could benefit from a mobile application that would provide them with extra information while they are shopping.

With regard to **Q2**, 9 respondents (12%) reported trusting their peers for *all their buying activities*. The majority of respondents (47 or 61%) reported caring about the expertise of their friends *only on certain topics*. Therefore, they selectively asked for advice about specific products to some of their friends or family members, depending on their expertise. Thirteen respondents (17%) reported asking some of their peers for *shopping advice*, but not necessarily in relation to specific products. Finally, 8 respondents (10%) reported *rarely asking for advice* to their friends and family members. When we combine the results of Q1 and Q2, we observe that a large majority of those who reported using a heuristic to solve the shopping impasse also reported asking for advice to their social network under specific or all shopping circumstances (see Table 1). These results reinforce the proposal that consumers might benefit from a mobile application that would allow them to ask shopping-related questions to their peers while on-the-go.

Table 1. Q1 × Q2 crosstabulation. Note how for Q1, the heuristic category has only 7 (out of 52, or 13%) respondents who would rarely seek their peers' advice.

		Q2 - subcategories				Total
		asking rarely advice	asking shopping advice	asking only on certain topics	asking for all their buying activities	
Q1 - categories	seek information	1	2	19	3	25
	heuristic	7	11	28	6	52
Total		8	13	47	9	77

During the interviews, we had the opportunity to further discuss the relation between the need for advice from peers and the nature of the items that participants were interested in buying. Almost all of the interviewed participants stated that their need for shopping-related advice very much depended on the kind of items they intended to buy. Interestingly, few interviewees reported knowing their taste well and therefore rarely requiring advice from others when buying clothes. Conversely, they defined themselves as less experts in other kinds of products (*e.g.*, technology) and therefore were more inclined to ask more knowledgeable friends for advice when shopping such items. During the interviews we also identified two factors that have an impact when asking for advice: *the price of the item*, and *the uncertainty related to the specific use of the item to be bought* (*e.g.*, a present). Additional factors that made the buyer ask his/her social network for advice included: specific features of the item, the expertise of the buyer in relation to the category of the item and the context of its use.

4. Conclusions and Future Work

In this paper, we have presented the results of a user study with 77 consumers aimed at investigating what social aspects play a role in their shopping decisions. The user study revealed that consumers often need additional information about the products they intend to buy while shopping on-the-go. While one third of the sample (25 out of 77) reported the *need for increasing their knowledge of the product before committing on buying*, another third could potentially follow the same heuristic. This is consistent with the findings of O'Hara and Perry [6]. Additionally, respondents gave priority to two product-related information channels: (a) online web pages and forums, and (b) *advice from their friends or family members*. Although designers have been exploring option (a) for some time [1, 2], these results indicate that option (b) is a promising area to be explored. Aside from the fact that consumers can ask peers for advice through phone calls and multimedia messaging services, we believe that there are opportunities for developing multimedia-based mobile applications for social shopping. This belief is supported by an interesting and somewhat expected result: the need for advice from peers is related to *the nature of the item to be bought*. Therefore, mobile applications for social shopping would benefit from understanding the link between the kind of item to be bought and other variables of the shopper's context (*e.g.*, the trust assigned to a certain peer giving advice on that item). We are planning to explore more deeply this relation and to validate the results of this study with a large sample of consumers.

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