Selection and Implementation of Navigation and Information Search Strategies in Bank Web Sites: Turkish Case*

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Abstract. One of the major issues in banking is "consumer loan". Most of the banks allow customers to apply for a "personal" or "generic" loan online. This procedure requires filling out forms with some "familiar data" and calculating the rates and fees for the total cost. Although online banking is a supported feature of banking in general, every system offers a different path for the same experience. This pilot study, which is the first step of a long-term study, focuses on three different bank web sites in Turkey and investigates the "find and search" strategies that users employ in order to apply for a specific amount of loan. For this purpose a qualitative usability test, based on a multi-method approach, was carried out with a sample of 11 Turkish senior year university students who were experienced Internet users and potential new customers. The participants were observed during the task executions and additional data was collected by the "think aloud" procedure, eye-tracking and video recording of the participants. Complementary data on user experience was collected by a final debriefing interview. The findings revealed significant usability problems caused specifically by the user interface features and information architecture of each system and enable to propose guidelines to improve user experience in form design and/or check-out process.

Keywords: Usability, Bank Website, Online Banking, Form Design.

1 Introduction

Online banking is now a standard service that is offered by almost all retail banks, with customers increasingly logging on for banking operations. Bank web sites enable users to perform tasks like checking balances and transferring funds. Besides the online banking platform is also a very important medium through which banks can interact with, learn, and understand their customers. Banks that provide more effective web sites and a wider array of online products and services than their peers appear to have higher efficiency and profitability. As all financial transactions are digitized, banks can easily access and analyze this information rapidly and more

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effectively to identify underperforming and nonperforming assets as well as target better sources of revenues [1].

Most commercial banks focus in their design on presenting their value, security, and reliability; whereas the main focus should be directed toward providing improved easy-to-use navigation, thus better customer service. Usability becomes a key aspect of how banks can encourage customers to log on and have their banking problems resolved via web interfaces [2].

In this context, as most banks have already established themselves on the web, competition on the web is bound to increase and banks will have to focus on the usability of their web sites and web banking applications in order for their web activities to sustain competition on the web and payoff in the long run. At the strategic level, usability is a prerequisite for success among other factors [3].

This pilot study, which is the first step of an extensive long-term research, analyzed the critical issues confronting usability for bank web sites. It investigated three different bank web sites in Turkey. For this purpose, a qualitative mobile usability test, based on a multi-method approach, was carried out with a sample of 12 Turkish senior year university students, who were experienced mobile Internet users and potential customers of online banking.

2 Theoretical Background

There are several factors that are essential for the adoption of Internet banking trading. Sohail and Shanmugham [4] define dthese factors as accessibility, trust, security, convenience and ease of use. According to Yücel et. al. [5] "Accuracy, security, network speed, usability and quality of service" appear to be the major and most important criteria that characterize successful Internet banking. Besides "user-friendliness, user involvement and convenience", as well as "effective user interface" formulate the essence for usable Internet banking.

Several studies in the literature of human-computer interaction focused on the usability issues in bank web sites. In this context, Bayles [6] tried to identify the usability issues relating to the most frequent activities in bank web sites. The most frequent activities reported were checking account balances and viewing or paying bills. Purchasing insurance, CDs, and applying for a loan or credit card were the most infrequent online activities. Respondents indicated that convenience, ability to easily identify/fix mistakes and saving time were the biggest incentives to bank online. Quick access to information, clear feedback, and simple terminology were identified as the most important features of an online banking site. In this context, he recommended to display the key benefits of the service with a distinct headline, subheading, bullet points, and a testimonial; to design an enticing and concise call-to-action to elicit the desired response; to relay simple and minimal information so as to not scare the user away, which includes fields for sign-up [6].

Similarly Rourke [7] identified typical online banking usability problems as inconsistent navigation and page layouts; on-site search engines that don't find, even when it is available; bank-oriented jargon that is not explained; poor feedback using interactive tools and forms; inability to save an application and complete it later; too many steps in transactions and no visibility of progress; unhelpful error messages and pages that are inaccessible to customers who are blind or disabled.

Sotopia [8] analyzed the usability issues in the bank web site of ING Bank and pointed out some of the most important characteristics that should be considered when building good and usable financial transaction web sites: Simple transaction forms used solely for transaction data; an intuitive and logical method for the user to correct mistakes in data entered; a small number of steps when performing a transaction; an optimized navigational system to facilitate the most common of user activities; clearly labeled buttons and menu items; simple and clear description of transaction procedures where extra devices (e.g. calculators) are involved in the security protocol and finally extremely robust system, because technical errors decrease trust [8].

Gerzso [9] asserted that usability improvements can have an immediate impact of 5% increase in the number of transactions and proposed the following KPIs for the usability of online banking: More transactions via online bank; more active users; higher online bank penetration and more cross sales. In this context, he recommended that processes in online banking should be streamlined and navigation should be optimized; help and error handling should be improved; the navigation should provide users with a smooth access to the transactions they want to execute, and to ensure the opportunity for users to discover new transactions [9]. Zollet and Back‘s study [10] on online banking usability showed positive usability effects of increased recognizability, real world metaphors, anticipating support, dominant designs and a higher degree of freedom through the undo button. In order to improve usability in a bank web site, Arad [11] recommended to promote simple and positive communication, to provide rich content that is valuable enough to speak to the specific needs of the users and to create a more interactive and holistic experience and journey for the users.

3 Methodology

The purpose of this pilot study, which is the first step of an extensive long-term research, is to explore the usability issues in bank web sites in Turkey concerning the selection and implementation of navigation and information search strategies. The study also aims to recommend implications to improve usability in online banking. Below is the research question of the study:

Research Question: What are the usability issues concerning the navigation and information search strategies in bank web sites?

This qualitative study was based on a multi-method approach, which consisted of a background questionnaire, task observation and a structured debriefing interview. The background questionnaire provided information on demographics, web and mobile Internet experience of the participants. The study also employed observation methods of data collection in order to gain better insight in online banking. According to Turkish banking system banks are categorized according to ownership issues. Commercial Banks are grouped in three different categories; Public Commercial Banks, Private Commercial Banks and Foreign Commercial Banks established in Turkey. Vakıfbank, Garanti Bank and Finansbank were chosen according to this categorization and two different tasks, based on finding an appropriate loan offer, were designed for the users to perform within these online bank platforms. The users were asked to terminate each task in 6 minutes. First task was to “*Find the appropriate loan of 5000*

TL with 250TL back payment monthly". The second task was to "*Apply for the loan*". In this context, a sample of 11 Turkish senior university students who were experienced Internet users and potential customers of these banks were involved in the study. The sample included 6 female, 6 male users. At this point, it should be noted that due to the limited sample chosen for this pilot study, it is mainly aimed to generate insights for further studies to improve usability in bank web sites. In this sense, a descriptive qualitative analysis is adopted for the discussion of the findings.

The tests were conducted in the usability lab of Galatasaray University, which is a full-equipped usability laboratory in İstanbul, Turkey. The navigation was directly observed and recorded on a structured observation sheet by the researchers. Besides the observation, additional data was collected through an eye-tracker and video recording of the participants. Final structured debriefing interview provided complementary findings.

The analysis framework was derived from the study of Gerzso [9], Bayles [6] and Arad [11]. These were integrated with the fundamental principles of interaction design [12]. The analysis framework that was derived from these studies include the following parameters: Visibility, Consistency and Standards, Discoverability and Feedback, Reliability, User Diversity, Simplicity and Positive Communication, Holistic Customer Experience.

4 Results and Discussion

The findings from the background questionnaire confirmed that participants were experienced Internet users with more than 7 years of online experience. None of them has yet applied for a loan and has never used this online feature in a bank website. Gender was not a distinctive parameter in task execution performance and each task was completed at an average of 4 min.

4.1 Visibility

One of the fundamental principals of interaction design is visibility. It was observed that banks tend to offer numerous alternatives of relevant content for their customers but this led to a confusion and frustration of the users. Thus the major complaints were about the overwhelming and overbearing content presented: *"There are too many things. To where should I look?" or "It is too crowded here"*. This also indicated the lack of visual hierarchy in the content structure. It was also observed that though the banners used on the page could lead to a possible solution, -except one participant- none of the users could recognize and click on them. When they were asked the reason of this avoidance during the debriefing interview session, they stated that they recognized them as advertisements. This behavior may be associated with "banner blindness", which has been documented since 1997 and been confirmed in recent eye-tracking studies: "*Users almost never look at anything that looks like an advertisement, whether or not it's actually an ad. Therefore, users have a tendency to never look at a slim rectangular area that's above the page's main headline*" [13].

Despite the fact that banner blindness caused the users to avoid informational banner, after learning that the site didn't have any ads, they considered this decision as a positive approach to improve usability.

User frustration caused by the violation of the visibility principle was also observed when the participants were asked to calculate the monthly payments. All banks offered a built-in calculating system through which participants could determine the total loan and repayment period, but not the monthly payment rate (Fig. 1). They searched for another calculator to calculate the monthly payment rate but there wasn't any on the same page. This situation inevitably caused user frustration. Participants either tried to calculate either by their phones calculator application or used a trial–and-error strategy to find the exact solution.

One of the positive visibility aspects stated by the users was the call-to-action button with sharp color contrast values on Finansbank's web site. The web site used dark blue derived from the corporate identity as the dominant color whereas the relevant button was in sharp red.

4.2 Discoverability and Feedback

Our findings supported the notion that "discoverability and feedback" appear to be one of the most problematic issues in online banking usability. Although participants tried to read and understand the explanations of the loans most of the time they needed further explanations, as they were not familiar with the concept. In order to delve into the terminology related to loans, they tried to click on various tabs and links, which unfortunately led them to irrelevant content.

Limitation of the "discoverability" led the participants to the adoption of an unstructured navigation based on a trial-and-error strategy, which resulted in errors and frustration. Especially filling out the application form for consumer loans was stressing since they were either too long (Vakıfbank) or input fields were not properly designed and users were not guided. *"Should I leave space between the numbers while I'm typing my phone* number?"; "*How much information do they need?*"; "*Where is the calculator?*" were the most frequently asked questions.

Browsing appeared to be the dominant navigation and information search strategy for all tasks. However, only one of the participants preferred to use the search box in the web sites. She first entered the keyword "loan" and tried to find the appropriate one through the long list of search results but she wasn't able to find the relevant content. Then she tried the phrase "5000 TL loan" but among the 10 alternatives listed in the search results page none of the topics consisted the search phrases. This led her to question the reliability of the local search engine by comparing it to Google: "*Maybe I should rather try a Google search!*"

The participants evaluated the SMS confirmation tool, which was adopted by all of the banks, as a positive feedback feature: *"SMS confirmation is vital"*. However they declared the need to see the final overall view of their application before the submission: *"Why was it so quick? There should be a warning to indicate that the submission for the application is about to finish"*.

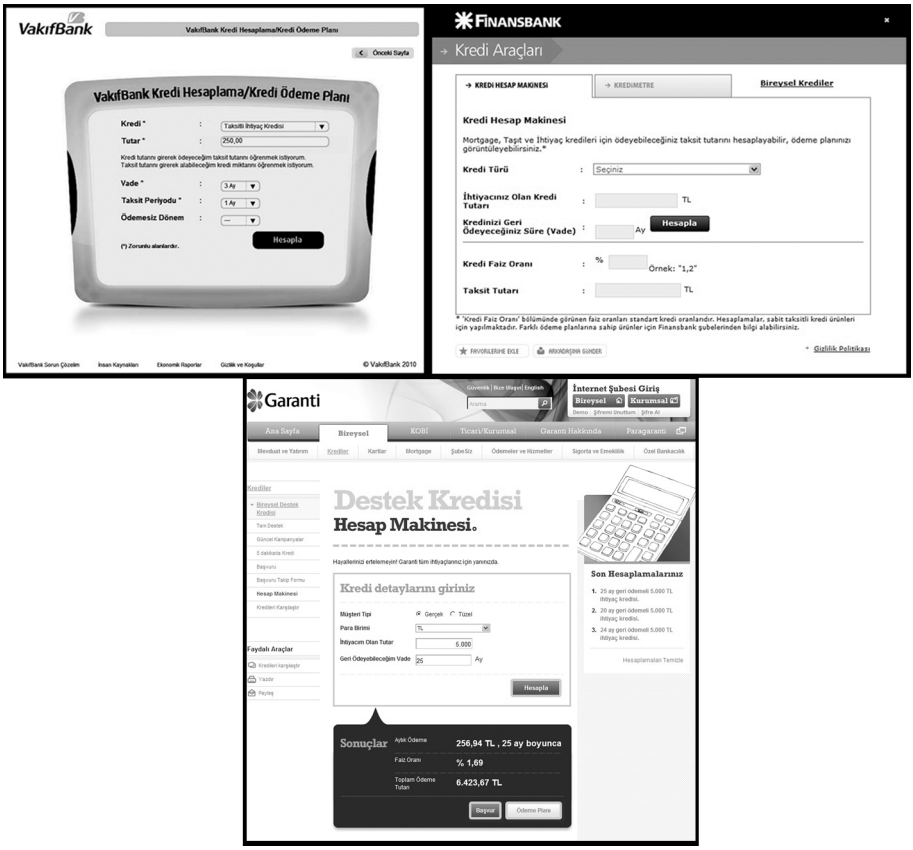

Fig. 1. Loan calculators provided by the banks: Vakıfbank, Finansbank, Garanti Bank

4.3 Consistency and Standards

In the context of consistency and standards, both positive and negative aspects were found to impact the online banking user experience. The location and orientation of menus, links and action buttons were well organized and participants could navigate through the features easily.

Although Garanti Bank and Finansbank had a call-to-action button on the loan calculation page, Vakıfbank didn't have any and this was an inconsistent feature that contradicted with the users' expectation: *"I wish there was an 'Apply' button on this page"*. Besides, the lack of button the 'back' button, which is a standard feature in online banking procedures based on linear structures, forced the participants to use the back button of the browser.

In this context, filling out the forms was also a major problem. Although the users previously calculated the amount of loan, either this information was asked again during the application procedure or the amount of loan, which was already calculated, was not indicated in the application form. In both cases users thought they did some-

thing wrong: *"Why is it asking the loan amount again? Did I do something wrong?"*. The lack of ability to easily identify and fix mistakes in forms also appeared to be a major problem in online banking. During the procedure of filling a form in the web site of Garanti Bank, if the user tried to get additional information, this attempt resulted in the lost of all the input and the user was forced to fill the form from the beginning.

4.4 User Diversity

User diversity appeared to be a crucial aspect in terms of user experience in online banking. The economic models of the banks and the needs of the customers often didn't overlap. The cognitive model of the bank web sites were far away from understanding the search strategies of the users. In this context, in order to create an appropriate design model, it is evident that the designers should investigate and understand the user model. Although the participants were educated college students, they still had difficulty in understanding the banking procedures.

The bank web site forced the users to identify the repayment period for the loans. However, the users insisted on making calculations due to their budget to find the monthly payment fees: *"The system doesn't allow me to calculate according to my budget and monthly income"* stated the participants and implemented a trial-and-error strategy to find their way through. Statements like *"Should I calculate myself and try it on the page afterwards?"* or *"It is more important for me to know 'How much will I pay every month?' than the answer for "How many months will I pay back?'"* reveal the basic concern of the customers. During the task execution, because of this significant conflict between the user and design model, participants spent most of their time for calculation.

As postal code usage is not a common concept in Turkey, only two participants knew theirs and the rest left the input field empty. Two users had difficulty in entering the *Captcha* especially in the website of Garanti Bank. Besides, since there were no options to refresh the *Captcha*, they spent efforts for being able to read and type the given code. Besides, the *Captchas* employed in this web site were not accessible for the disabled users, which eventually excluded this user group from their target audience.

4.5 Simple and Positive Communication

Bank-oriented jargon was found to be the most problematic issue in online banking usability. Almost every bank offered different types of loans and named them due to their marketing communication strategies. It was observed that terms like "*Loan with gift bonus*" or "*Easy loan*" didn't attract the attention of the user but rather confused them. Participants complained frequently about these promotions and preferred to avoid them: *"Do I have to learn each bank's campaigns one by one?"*. Although the application form of Garanti Bank was found to be the shortest one, it forced the users to select one of the campaigns during the application. Some other terms like "*rent income*" was also found unclear and additional help about this input field was inadequate.

Not only the application form but also the overcrowded homepages increased the time spent on finding the loans especially in Finansbank and Vakıfbank websites: *"I'm confused, there are a lot of alternatives and I don't have any idea about them"* or *"The page seems fancy but I can not find what I'm looking for"*. Even if the customers could finally find what they were looking for, the amount of information demanded in the application forms scared them and caused them to refuse to complete the form. Although only a limited number of input fields were labeled as required fields, the users were not able to recognize these fields because of the abundance of the optional input fields in the form.

4.6 Holistic Customer Experience

In the context of money transaction, most users easily get nervous about online systems if they are not used to such systems or if the system doesn't communicate with them in accordance [7]. Findings from the debriefing interviews in this study were inline with this finding. These findings revealed that most participants preferred to go to the bank and ask additional information to a bank clerk. However, they also stated that if additional help were offered on the web site such as "real-time online help", they would prefer to use it. "Call centers" came up as another alternative but face-to-face communication still seemed to be important when loans were the subject matter.

As all of the bank web sites that were included in this study offered loans just by "sending an SMS message to the bank", participants felt uncomfortable while filling in the forms. "*I could send an SMS and save my time instead*" was a major complaint declared during the task execution. The participants also expected that the system should be robust and automatically collect users' additional data from various sources once the unique ID number was entered but none of the banks offer such alternatives.

5 Conclusion

Online banking is now a standard service that is offered by almost all retail banks and usability seems to a key aspect encouraging customers towards the adoption of these platforms. This pilot study explored the usability issues in three major bank web sites of Turkey by focusing on the selection and implementation of navigation and information search strategies for consumer loans. Findings were inline with the previous studies.

Considering the usability issues identified by referring to the analysis framework, the study provided the following implications for the improvement of usability in bank sites:

- Don't go overboard in site content and value visibility. Rich content is certainly a beneficial factor in the success of bank web sites. However, that rich content must be valuable enough to speak to the specific needs of the users, refraining from an overbearing and overwhelming tone [11]. Prioritize the most important set of features in your homepage and provide quick access to relevant information.

- Do not underestimate the impact of banner blindness and provoke recognizability of critical promotion areas with clear graphics [13].
- Display the key benefits of the services with distinctive headlines [6].
- Design simple and clear application procedures. Enable the easy access and customized use of extra built-in tools like calculators in these procedures.
- Use attractive call-to-action buttons with sharp contrast values, which are recognizable even within over-crowded pages [6].
- Enable systematic exploration of user interface features for users who are not familiar with banking procedures and increase discoverability through perceived affordances.
- Value clear feedback for every action, especially for form inputs. Provide support for error handling in forms to easily identify and fix mistakes [6]. Avoid re-asking the same questions in forms to prevent confusion. Provide an intuitive method for the user to correct mistakes in forms [8].
- Provide a reliable search performance through the local search engines [7].
- Stick to consistency and solid standards derived from basics of interaction design. Value the expectations of users. Provide the use of built-in "back button" within the interface to enable a consistent and reliable navigation.
- Know your users. Step out of the designer's cognitive model and be aware of the needs of the target users and the user model to provide an efficient user experience.
- Value accessibility for disabled and senior users for a higher online bank penetration [11].
- Promote simple and positive communication. Most people still prefer face-to-face communication in banking [8]. In order to minimize this tendency, a positive message on the bank website should be conveyed in order to encourage users towards online banking.
- Adopt simple terminology based simple and minimal information so as to not scare the user away [8].
- Minimize the number of input fields in the forms. Prioritize the required fields and do not overload the form with optional input fields.
- Create a holistic customer journey and experience. Provide efficient real-time on-line help to activate users towards using online platforms [9].
- Enable robust and reliable platform functionality to instill confidence among customers that their banking needs can be taken care of entirely online. This may expand the extent of activity the customers do via the banking site and encourage uptake among the remaining non-users [2].

Considering the lack of user-centered studies on bank websites specifically in Turkey, this pilot study contributed to the relevant literature by providing findings to improve usability in online banking. However, it should be noted that –due to the small sample- the findings are limited with descriptive qualitative insights. In order delve into various aspects of the usability issues in bank web sites, further empirical studies with divers users in larger groups should be conducted.

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