Security and internet banking
how satisfied are users with internet banking security?

Alfred Johansson
Högskolan i Halmstad

Abstract
In this paper, the security among internet banking and the perception of the users are being investigated. The internet banking is a service that offers customers to do all their performance of banking through the web, this is something that has increased wildly. The paper is using a method of gathering primary data, were 222 respondents answered 5 questions about themself and their satisfaction from the internet banking. The main part of responders were in the ages between 16-25 and a clear majority of them were satisfied with the user experience of internet banking and the security within. While a majority of the responders over the age of 55, felt the other way around, namely that they did not feel confident nor satisfied about using the IB. In the discussion comes a simple conclusion that the different answers here are a direct example of the different digital lifestyle. Biases are also discussed in the last part of the paper, and also some tips for the future research in the subject.

Keywords
Internet banking, security, satisfaction,

Introduktion
In this paper will the usage of internet banking and the security among the services be investigated. Internet banking has increased highly in the last years. The internet banking is a service that is provided to the customers and are often referred to as “e-banking” or IB. This type of services lets the customer perform a collection of banking services online (Nerme, Stenström, Darfeldt & Solberg Søilen, 2013). The IB can be used everywhere with help from internet and the user are not dependent by their geographical location. When the internet banking were introduced, the main area of usages were as an information presentation medium in which banks marketed their services and products on their homepages. With the arising of the Internet, it becomes simple for banks to share their databases and maintain a centralized database at a low cost (George & Kumar, 2015). From a consumer perspective, the service provides a very convenient and effective approach. The consumer have the opportunity to handle all their finances 24 hours a day, seven days a week (Margaret & Thompson, 2000). A lot of customers adapts quickly to this new form of banking, and
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demands new levels of convenience and on top of these powerful and easy using financial tools, services and products, something the classic brick and mortar banking could not offer (Koskosas, 2008). The Internet is creating higher customer expectations and customers are expecting faster service.

With all the errands online, there are a new way of identifying oneself. In Sweden, there is one common way of doing this, through Mobile Bank ID. This application is directly connected the customer's bank, personal number and with a certain password. They also provide login through biometric technique (BankID, 2016). The application can be used on both tablets and smartphones, and provides the customers with security on their devices since the start in 2009. The security is an important question of the internet banking. According to George & Kumar (2005), the IB faces different problems hence there are no face-to-face meetings. There are also a few of stories about frauds within the internet banking, where the new way of transfer money through the web have suffered from thieves. In the most drew attention case of them all, is where the Citibank lost millions of dollar every day, and approximately $400,000 were never found (Fatima, 2015). This paper will focus on a lower level of security than the entire banking, with a focus on the user’s point of view on the security of internet banking. More specific, the satisfaction they feel about it.

Literature review

In an article from Andaleeb (1996), satisfaction is discussed and the key terms within the word are: trust and dependence. Andaleeb do describe satisfaction as an overall positive affect and contentment regarding a relationship with another party, in this paper, the internet banking security. Rosseau (1998) describes trust as a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviour of another. Trust is central to the development of grateful service relationships B2B markets and for the achievement of customer loyalty. In a B2C environment, trust between parties is established very differently from business-to-business environments. In the B2C context the relationship more often very short term and more focused on transactions (Alnsour, Khalil, 2011).

Even though word as trust and satisfaction are complex physiological states of mind, this paper will refer them to a more basic state where the main area is on the feelings toward internet banking. To reach this trust and satisfaction, the focus must be on the security. But the security question is discussed from a lot of different perspectives (Fatima, 2015; Alnsour, Khalil, 2011; Shanmugam, Wang, Bugshan & Hajli, 2015).

Alnsour et al. (2011) do believe that to make the internet banking more secure, the bankers must first understand the perceived security that the customers have. In their research they found out that many customers perceived more uncertainty when a transaction carried out using the internet and are very concerned with the security online. It also showed out that the feelings of uncertainty were associated to the risk of losing money, just by the perception of security online. Rod, Ashill, Shao & Carruthers, (2008) do mean that in order to maintain and expand their customer base, it is critical for banks to understand the criteria consumers use to
evaluate internet banking service. But also understand how these impacts on their perceptions of overall IB service quality, and satisfaction with the e-services. To make the adoption go better and make more out of the internet banking, the perception of the internet banking must arise to a level where the consumer understand how it works. Rod et al. (2008) do believe that to come to this stage, the keys will be: the online information system quality, banking service product quality and online customer service quality. If these components works optimally and in symbiosis, the customer satisfaction will increase.

Consequently this lack of knowledges leads to a longer process of adoption. Banks in the UK does even try to provide their customers with card readers to assure them that internet banking is secure (Shanmugan et al, 2015). In their article they also enlighten the importance of e-readiness, which is a key issue in the adoption of technology for a community and is dependent on the level of infrastructure development in that society. Fatima (2015) do believe in another solution for making the consumers feel safer with the internet banking. In her article, she discuss the many problems with the security and with the high-tech frauders, who can install programs on a person's computer without their knowledge and use all the information. She believes that a biometric technology would solve this problem, where there is a need of a such personal detail that can’t be copied to use the internet banking, for an example, the fingerprint. Fatima do mean that this will not only increase the security, but also the perceived security from the customers.

Materials and Method

To make this paper, I chose to start to find secondary data about internet banking, and after that make my questions to the survey. The nature of this study are empirical, the method has been to use primary data collected from a survey that was shared through Facebook. The survey were a quantitative one with easy question about the internet banking. Where the responder had to mark a box of two choice question, and in some of them mark a box in a rank system. The sample size were 222 respondents within the age intervals 16-20, 21-25, 26-30, 31-35, 36-40, 41-45, 46-50, 51-55, 56-60, 61-65, 66-. With the usage of Facebook i could reach out to all different people, and not only the students of Halmstad. In the compilation of the answers from the survey, I chose to make some smaller intervals, due to the similar answers from the ages: 16-20, 21-25 and 26-30. I did the same with following groups: 56-60, 61-65 and 66-. The ages in between these two intervals are still in the survey, but not discussed and analysed in the same level.

The following background information were sent out to the responders in the survey:

“The use of the internet banking has increased rapidly during the years. It allows us to manage our banking online, any time of day. This is all from seeing our balance on accounts to make a payment at home. The purpose of this study is to identify what people think about safety on the internet banking. All responses are anonymous.”
The following question were part of my survey:

- *Are you a man or a female?*
  A basic question of gender.

- *Which age are you within?*
  A basic question of age, where the sample size can be used to see patterns from the different age intervals. Where I had 10 different 5-years intervals and a “66+” choice.

- *During the last 12 months, I have done handlings with the internet banking.*
  This question were used to see if they had been using the internet banking in the past 12 months, and hence see if there can be any connection with the usage and the feelings surrounding the IB.

- *I feel confident about using the internet bank. Grade 1-5*
  Confident, are an important part of the satisfaction, therefore an important question in the survey.

- *I feel satisfied with the internet bank. Grade 1-5*
  A spot forward question to see if the respondent feeling a satisfaction of using the IB and not only the security among it.

- *I feel trust within Bank ID. Grade 1-5*
  The Bank ID are as described the main component of identify oneself online, therefore an important question to see if the respondents have trust in the application. I chose this kind of question with the knowledge that the population were swedes.

**Findings, discussion and practical implications.**

This part of the paper will be divided into two sections. A section where the result will be showed together with a table but also some reflections over it. The second part is about the biases that arose in the survey but also some advices and discussion to future researches in the area. The last section is the author's word with some advice to future researches in the area.

1. Discussion about the result
The first question was a basic one, where the only interest were if the responder was a man or a female. The result showed that 138 females answered the survey and 84 men. The result

![Bar chart showing the gender distribution](image)

**Tabel 1: Are you a man or a female?**

Question number two was to know how old the responder are. This is an important part of the survey, where a lot of pipelines can begin, for an example, to see if there are some over- or underrepresented answers from an interval. The ages 21-25 stands for 61,7 % (137 persons) while the collected ages 56 + stands for only 4,5 % (10 persons).

![Pie chart showing the age distribution](image)
The third question were about the usage of internet banking with the assertion “during the last 12 months I have done handlings with the internet banking”. The result of this assertion was that 94,1 % (209 persons) agreed. The question mainly focused to see if the result could strengthen the articles who said that the internet banking had become a everyman's business.

Result: 94,1 % of the population have been using the internet banking during the last year.

The three last questions of the survey focused on the behaviour and feelings surrounding the internet banking, where the responder would rank a statement from 1-5, where 1 is “I don’t agree” and 5 is “I completely agree”. In this survey I have chosen to see number 3 as a neutral answer, where the respondenter don’t feel either of the answer options as a good answer. This mean that if the responder chose “1” och “2”, they don’t agree with the statement, but if they chose “4” or “5” they do. I have chosen to look more close by on two combined intervals, the “16-30” year old and the “56-” year old, this due to enlighten the different opinions.

The assertion was “I feel confident about using the internet bank.”

The diagram shows a dominance from the “4” and “5” answers with a frequency of 90,1 % in favor for the confident in internet banking. But if look closer on the number we could see that within in the combined age of 56-, 50 % don’t feel confident about using the internet banking. Only 30 % in this interval do feel confident. In the combined age “16-30” can we see the other side of the coin, where 91,7 % feel confident and only 2,6 % that don’t are. The last procent that are missing, is the ones that have been neutral (3) in the question. I have chosen to lay no speculations to the fact here if the responder i as male or a female here. This due to that there are no important findings in this paper regarding the gender.
Result: 90.1 % feel confident about using the internet banking. Therefore there a high chance that the people do feel satisfied in the internet banking security.

I feel satisfied with the internet bank. The answers of this statement gave almost exactly the same result as the last one. Here did 91.5 % agree with the statement and only 5 % did not agree. To do the same occupation as in the last question, with the different age intervals, did 60 % of the 56-aged people not agree with the statement, and only 20 % did. The combined age interval 16-30 did 93.7 % agree with the statement that they felt confident with the internet banking. Only 2 % did not agree with this.

Result: 91.5 % of the population feel satisfied with the internet banking service.
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The last question of the survey, I feel trust within Bank ID. 90,5 % of the whole population of the survey agreed to this statement. Remarkable low 1,8 % did not and 7,7 % chose to be neutral in the question. The investigation of the two different age intervals didn’t bring the exact same answers as the previous statements. From the segment of “56-” did 50 % of the respondents say that they agree with the statement and feel trust in the BankID. 40 % chose to answer neutral to the statement. This can be to the fact that they might not use it or actually don’t have any feelings towards the internet banking security tool. While in the other important group “16-30” did 92,7 % agree that they feel safe with the BankID. Only 2 persons did not feel safe with it in this age, 1,04%. 6,25 % chose to put a neutral answer. This high amount of neutral rating in this question are being discussed in the last part of the paper.

Result: 90,5 % do feel trust within the Bank ID.

2. Discussion, biases and advices toward future research

In this survey there could have been two biases. The first one is the fact is that the majority of the respondents are between the age of “16-25”, whole 80,6 %. This may have only shown the satisfaction of the internet banking security of the youth people and not by the older ones. While only 4,5 % of the responders are 55 or older. Even though this group have a remarkable different response rate, we can’t really draw conclusions and see if there are a correlation due to the fact that they were so few. To make sure if there are a correlation between the age of the user and the satisfaction of internet banking, a great idea could be to do a hypothesis testing. The sample size could be the same as mine, 222, but instead have a target focus, for example persons within the ages 16-25 and 56-, and letting only those to do
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Another example of doing this hypothesis test would to gather qualitative data instead of quantitative as mine, this might have given some new insights of the respondents age and user experience of the internet banking. An example of this hypothesis could for example be, H1: There are a different perception of internet banking security in different types of age groups.

Another thing to look more in the future is to find the people who are not using the internet banking today. This could be lead to important findings to the banks, on what things they have to work more with to change the perceived security among internet banking.

The second biases is my last question, where i draw the conclusion from the setup of the material, that if a person used the internet banking, they would also use BankID. But 7,7 %, which can be seen slightly high in this survey, chose to place their mark in the box of “3”. This neutral box can be interpreted as the question were asked in a wrong way. 40 % of the group “56-” chose number “3”, which can be the response of that they don’t know what it is. The numbers are hard to read and therefore could the question been a bad one. I did also choose to take it for granted that everybody knows what BankID is, due to the high amount of users in Sweden of it. The answers might woulda been different if I added a small explanation of the tool.

Referenser


