Chapter 3
Privacy for Loan Applicants Versus Predictive Power for Loan Providers: Is It Possible to Bridge the Gap?

Charlene Jennett, Miguel Malheiros, Sacha Brostoff and M. Angela Sasse

3.1 Introduction

Consumers have to trust that financial services will work for, rather than against them. In a recent speech, Mark Hoban (2010) MP, Financial Secretary to the UK Treasury, stated that "*We need a financial sector that works for consumers—one that earns their confidence, competes for their services, and keeps them properly informed.*"

The collection, use, maintenance, and disclosure of consumer information, is an essential part of any financial transaction (MacCarthy and Gellman 2010). However, recent research suggests that more needs to be known about the public's worries about how their personal information is used and protected (Raab 2004)—and that applies to financial services.

This chapter explores consumers' privacy concerns about information requested on loan applications. Currently, loan applicants have low expectations of privacy—they are expected to: (1) answer all questions, without exception; (2) consent to all terms and conditions (which often includes their data being passed onto third parties); and (3) accept that their credit record will be checked. Based on our interviews and surveys, we argue that it is possible to maintain the efficacy of the loan risk assessment process and respect applicants' privacy at the same time.

In Sect. 3.2, we review existing literature on the perspectives of loan providers and loan applicants, and identify a discrepancy between information that loan providers and loan applicants consider relevant. To explore this discrepancy, we conducted

C. Jennett (✉) · M. Malheiros · S. Brostoff · M. A. Sasse
Department of Computer Science, University College London (UCL),
Gower Street, WC1E 6BT, London, UK
e-mail: c.jennett@cs.ucl.ac.uk

M. Malheiros
e-mail: m.malheiros@cs.ucl.ac.uk

S. Brostoff
e-mail: s.brostoff@cs.ucl.ac.uk

M. A. Sasse
e-mail: a.sasse@cs.ucl.ac.uk

S. Gutwirth et al. (eds.), *European Data Protection: In Good Health?*,
DOI 10.1007/978-94-007-2903-2_3, © Springer Science+Business Media B.V. 2012

three studies. Study 1 was a survey study with 283 participants, investigating how comfortable participants felt about fulfilling loan information requests on application forms. Study 2 was an interview study with 10 participants, investigating participants' perceptions of loan information requests and whether they thought it was ever acceptable to lie on an application form. Study 3 was a survey study with 298 participants, investigating whether participants had ever decided not to apply for credit because of the information that was requested on the application form. The aims, methodology and results of these studies are presented in Sects 3.3 and 3.4.

In Sect. 3.5, the results of the studies are discussed within the context of three privacy issues: (1) perceived relevance of the information; (2) expected usage of information; and (3) perceived accuracy and fairness of the application process. In Sect. 3.6, we present the main conclusions of the chapter: (1) to improve applicants' confidence in the lending system, consumers' privacy concerns should be acknowledged; and (2) it is possible for loan providers to do this without reducing the predictive power of credit scoring. It can be achieved by: (1) letting applicants specify how and when they want to be contacted; (2) obtaining informed consent for data sharing with third parties; and (3) allowing applicants some degree of application form customization, e.g., making some data items optional and allowing a wider range of items.

3.2 Literature Review

3.2.1 Loan Providers

In the UK, total consumer credit lending to individuals at the end of June 2011 was £210 billion.[1] Having a loan request accepted can improve someone's circumstances—for instance, because it enables them to buy a car, a house, or start their own business. However, if a borrower is unable to re-pay the loan, credit can lead to negative outcomes, including bankruptcy. To predict whether a new applicant is a "good" or "bad" credit risk, loan providers employ a method known as credit scoring—a statistical model that converts applicants' personal data into an estimate of risk. These scoring systems differ from loan provider to loan provider, and even though the exact scoring methods are not publicized, the statistical modeling draws on three sources of information: (1) the application form; (2) past dealings with the company; and (3) credit reference agency (CRA) files.[2]

For information about how loan providers use applicants' information, we conducted interviews with four experts.[3] Expert 1 was a risk management consultant for a financial services authority. Expert 2 was an executive from a peer-to-peer lending

[1] *Credit Action*, "Debt statistics", December 2010.

[2] *Martin Lewis' MoneySavingExpert.com*, "Credit rating: How it works and how to improve it". http://www.moneysavingexpert.com/loans/credit-rating-credit-score.

[3] Expert interviews were conducted in a previous case study (not yet published).

company. Expert 3 was a board member from a credit union. Expert 4 was a university professor with a background in consumer finance statistics research. Information from particular experts will be indicated using the footnotes.

The experts agreed that data quality is an important issue for loan providers. CRAs are used to cross-reference application data, for example for error and fraud prevention. Discrepancies or flags will trigger examination of the applicant.[4] CRAs are viewed as the most reliable source of information because they are supplied by "disinterested" third parties, whereas applicants might lie on application forms.[5] For example, when applicants are asked about their income, a significant portion state an exaggerated figure to boost their apparent ability to re-pay.[6] To deter applicants from "gaming" the application process in this way, loan providers tend to give little or no explanation on why certain items of information are requested; the industry believes that—if applicants knew how specific information items were used—they would selectively report information to appear a better credit risk than they really are. This would undermine the predictive power of the score card. Loan providers sometimes even include misleading questions in the loan application to reduce applicants' gaming.[7]

3.2.2 Applicants

Past research suggests that people believe that loan officers consider fewer variables in evaluating credit applications than they actually do (Kamleitner and Kirchler 2007). In particular, people do not think that *the number of dependents*, *the time on current job*, and *the time at current address* matter, but these items are commonly used in the risk assessment. Some applicants want to disclose more information than is requested: one lending brokerage service decided to remove a field about *additional sources of income*, but had to re-introduce it after applicants complained about its absence.[8]

Previous research (Adams and Sasse 2001; Culnan 1993) found that a disclosing party's labeling of information as "sensitive" or "private" is vital to how a request for that information is perceived by that individual. *Information sensitivity* depends on how "personally defining" the information is perceived to be, and how the individual thinks others will interpret the information: data that could portray an individual in a negative way is perceived as more sensitive, whereas information considered *relevant* to the interaction is considered less sensitive. When personal information collected for one purpose is subsequently used for another one (e.g., marketing), this may be viewed as an invasion of privacy. The nature of the relationships with the

---

[4] Expert 3, a representative from a credit union.

[5] Expert 1, a risk management consultant for a financial services authority.

[6] Expert 2, a representative from a peer-to-peer lending company.

[7] Expert 1, a risk management consultant for a financial services authority.

[8] Expert 2, a representative from a peer-to-peer lending company.

information receiver, and in particular the level of trust the individual has in them (based on past experience or reputation) also influences an individual's assessment of the privacy implications. A third factor is *information usage*. Thus, giving *informed consent* for data use requires: (1) *disclosure* about the potential benefits and harms expected from the action; (2) *comprehension* of the potential benefits and harms; (3) *voluntariness*, meaning the individual can resist participation if they wish to; (4) mental, emotional and physical *competence* to give informed consent; (5) *agreement*, meaning clear and physical opportunity to accept or decline the participation; and (6) *minimal distraction*, doing all of the above without diverting the individual's attention from the task at hand (Friedman et al. 2005).

3.3 Research Questions

The literature review suggests that there could be a discrepancy between what information loan providers request to assess risk, and what information applicants consider relevant in this context. Perceived relevance, in turn, determines how sensitive information is deemed to be. But to protect the predictive power of their scoring systems, loan providers only provide minimal information about why specific information is requested.

Our research aims to answer the following questions:

1. Which information do loan applicants feel most and least comfortable with disclosing, and why?
2. Do applicants think it is acceptable to lie on application forms, and if so, why?
3. Have applicants ever not applied for credit because of the information that is requested on the application form?

In particular, we want to uncover whether it is possible for loan providers to request information in a way that does not invade applicants' privacy, and maintain the efficacy of their score cards at the same time.

Three studies were conducted:

1. In Study 1, 283 participants filled in a survey where they rated 59 loan information requests in terms of how comfortable they felt giving this information to loan providers. They were also asked what effect they thought their information disclosure would have on the chances of their loan request being accepted.
2. In Study 2, 10 participants were interviewed, exploring the topics of Study 1 in more depth. This included being asked about their perceptions of loan information requests and whether it was acceptable to lie on an application form.
3. In Study 3, 298 participants filled in a survey about their experiences of being denied credit. This included being asked whether they had ever chosen not to apply for credit because of the information that was requested.

The methodology and results of these studies will now be described.

3.4 Research Studies

3.4.1 Study 1: Assessing Level of Comfort for Loan Information Requests

Study 1 aimed to extend previous research by investigating which loan information requests people feel most and least comfortable giving to loan providers, and why. As financial data is sensitive, a key aspect of our elicitation was not to ask participants for their actual financial information itself, but elicit their perception of sensitivity of the information requested.

A survey was created using Limesurvey[9] that took approximately 15 min. for participants to complete. The survey had two main components: (1) annual equivalized income calculation (before housing costs, using the OECD scales), and (2) ratings of loan information requests for comfort. The equivalized income calculation (Department for Work and Pensions 2009) was used so that each participant could be asked to imagine a reasonable loan amount—i.e., an amount they could possibly be offered in real life. The equivalized income was computed based on the participant's weekly net household income, and how many adults and children live with them. This figure was then used to set the loan amount that participants were asked to imagine they were applying to £500, £2,000, or £5,000. Based on the calculation, 46 participants were quoted £500, 148 were quoted £2,000 and 89 were quoted £5,000.

In the second part of the survey, participants were shown a list of 59 *loan information requests*—information items requested on real credit card and loan application forms—examples include *title*, *employer name* and *monthly income*. For each loan information request, participants were asked to rate on a 5-point scale to what extent they were comfortable with giving the loan provider this information, where −2 = "very uncomfortable," −1 = "uncomfortable," 0 = "neither comfortable or uncomfortable," 1 = "comfortable," and 2 = "very comfortable." After rating all 59 loan information requests, participants were asked to write a brief summary regarding which items they were most comfortable and least comfortable giving the loan provider, and why.

Participants were recruited according to a nationally representative sampling frame via the market research company e-Rewards[10] and were rewarded by e-Rewards for their participation. Three hundred and seventy-five survey responses were collected; however 92 were excluded due to incomplete/nonsense responses for the open text questions. Therefore the analysis is based on 283 participants (107 male, 176 female, age range 18–60 + years, mode age "40–59"). Seventy-five percent had experience of applying for credit.

Mean comfort ratings were computed for all 59 loan information requests. Note that if a person chose not to give a rating, by selecting "not applicable," they were

[9] "Limesurvey." http://www.limesurvey.org/.

[10] The "e-Rewards" business, subsequently re-branded as "Research Now." http://www.researchnow.com/.

Table 3.1 Means and SDs for the 5 items rated highest for comfort, in descending order, where -2 = "very uncomfortable" and $+2$ = "very comfortable"

Loan item	N	Mean	SD
Title (Mr, Ms, etc.)	283	+1.32	1.06
Are you currently living in UK (yes/no)	281	+1.25	1.04
First name	283	+1.25	1.11
Surname	283	+1.23	1.11
Gender	283	+1.22	1.07

Table 3.2 Means and SDs for the 5 items rated lowest for comfort, in ascending order, where -2 = "very uncomfortable" and $+2$ = "very comfortable"

Loan item	N	Mean	SD
Work phone number	228	–1.50	1.20
Value of other assets	283	–1.64	1.17
Total balance of investments	277	–1.69	1.20
Total savings balance	280	–1.75	1.24
Mobile phone number	270	–1.99	1.17

excluded from the data for that particular loan information request. As can be seen in Table 3.1, the 5 information requests that participants were most comfortable giving loan providers, in descending order, were: (1) *title*; (2) *currently living in the UK*; (3) *first name*; (4) *surname*; (5) *gender*. One can suggest that these items are primarily related to public identity.

As can be seen in Table 3.2, the 5 information requests that participants were least comfortable giving loan providers, in ascending order, were: (1) *work phone number*; (2) *value of other assets*; (3) *total balance of investments*; (4) *total savings balance*; (5) *mobile phone number*. One can summarize these information requests as phone numbers (excluding the house phone) and information about applicants' additional finances (savings, assets, investments).

Participants' written responses revealed that a common worry was that phone numbers might be used to contact them at awkward times. For example P210: *"Happy giving general information about my finances, do not like to give work details as I work in an open plan office and everyone would be able to hear my personal details on a telephone call."*

Another concern was that phone numbers provided might be passed onto third parties and used for sales calls. For example P166: *"I am fairly comfortable with giving most information, they need it to do their job and work out if you are a risk. The thing I hate the most is if then afterwards my details are passed on and I get unsolicited emails/phone calls."*

Information about savings, investments and assets were also rated as uncomfortable. Some participants felt that they might be denied credit because of the amount they had saved. For example P219: *"not so comfortable with them knowing how much I have saved in case they decide not to give me a loan."* Other participants felt that this information was irrelevant. For example P144: "*Least comfortable with questions about other assets/savings which aren't immediately relevant in my view*." Similarly, P109: "*Least comfortable with savings & investment—none of their business!!!"*

In a third part of the survey, participants were shown the list of 59 loan information requests again but this time asked to rate them in terms of what effect they thought their information disclosure would have on the chances of their loan request being accepted. Information requests were rated on a 5-point scale, where $-2 =$ "my answer would show me in a very negative light to a loan provider" and $+2 =$ "my answer would show me in a very positive light to a loan provider." Pearson correlations comparing the comfort ratings and the effect ratings detected statistically significant correlations for 56 of the 59 loan information requests (the items for which no statistically significant effects were found being *surname, first name* and *middle name*). This suggests that there is relationship between comfort and effect—if a person thinks that the loan information request will show them in a positive light then they feel more comfortable giving that information to the loan provider.

Finally, participants thought that not answering all questions on the application form would be viewed negatively by the loan provider. For example P217: *"...the information I did not wish to give could be construed in a bad light."*

3.4.2 Study 2: Perceptions of Loan Information Requests and Lying on Loan Applications

To explore the findings of Study 1 in more depth, we conducted interviews with 10 participants in Study 2. The interviews were conducted either face-to-face or over the phone. With the participant's permission, the interview was audio recorded and later transcribed.[11] Each interview lasted approximately 30–60 min. and was semi-structured, covering several issues around personal finance. Transcripts were analyzed using a qualitative methodology known as thematic analysis (Braun and Clarke 2006). In this chapter, we will report responses regarding: (1) perceptions of loan information requests; and (2) lying on application forms.

Participants were recruited via the UCL Psychology Subject Pool[12] and received a £10 Amazon gift voucher for their participation. There were 10 participants interviewed (2 male, 8 female, age range 19–59 years, mode age "25–39"). Regarding employment status, 4 were students, 2 were in part-time employment, 2 were unemployed, 1 was in full-time employment, and 1 was a homemaker.

7 out of the 10 participants had experience of applying for credit, including bank loans, overdraft extensions and mortgages. These 7 participants were asked to reflect on what they could remember about the application process. The 3 participants that had no experience of applying for credit were asked to consider how they would feel if they had filled in a loan application form (all 3 claimed to have seen loan application forms before).

All participants said that they felt that the majority of information requested on credit application forms was relevant. Reasons given included *"the bank needs to*

[11] "Fingertips Typing Services." http://www.fingertipstyping.co.uk/.

[12] "UCL Psychology Subject Pool." http://uclpsychology.sona-systems.com/.

know whether they can trust you" and *"if I don't pay the bank needs my information to catch me."* The loan amount appeared to be an influential factor—the bigger the loan, the more reasonable it was perceived to give loan providers the information.

Participants questioned the relevance of questions; including *next of kin* and *marital status*. For example P2: *"Did not think next of kin was important, not sure why they needed to know that."* P7: *"I don't know, if they ask about your relationship status, but I guess they might do and I think that might kind of be irrelevant [. . .] Well, unless you're married, I guess you're kind of just applying for a loan for yourself anyway, you wouldn't, you know, if someone else needed a loan, they could apply for themselves."*

P1 questioned the level of detail needed: "*I guess it was just, um. . . probably the level of detail that they wanted, it was quite, um. . . quite, like I said, you'd have to go and look things up, and settle them [. . .] and that was probably, um, made the form more difficult to fill out. . . "*

Five participants said that they would have liked to provide more information to improve their chances of getting a loan, such as information about future employment, or the likelihood of a well-paid job after finishing their studies. For example P1: *"Hypothetically, if I was applying for a loan now, I'd have to say unemployed but I would want to tell them I have employment lined up for when I finish my studying [. . .] I think it would be a positive—in a more positive light, because I would have . . . kind of the security of employment for the future so I'd be more able to pay back my debt, I think that'd be positive, rather than saying that I'm a student, I don't know if I'd be able to find a job when I finish, don't know how long it'd take."*

Another student in the sample wanted to show loan providers that they have no outstanding debts or bills. 2 participants (not students) said that they wanted to provide more information about their personal circumstances, and how they planned to re-pay the loan. For example P3: *"I think that I was looking for work at the time, and I did get a job quite quickly, so I probably would have been alright paying it back. They don't know stuff like that, do they? Whereas I suppose other people get mortgages on huge houses and then they can't pay it back. It's not like I was asking for loads of money. So I think, yeah, in that respect it should maybe have been different. . . "*

All of the participants said that they would always tell the truth on a credit application form. When asked about their views on other people not telling the truth, 7 participants said that lying was always unacceptable. They mentioned the consequences of defaulting and the possibility of getting a criminal record as reasons why lying was wrong. For example P2: "*It is constantly wrecking society when people make fraudulent applications, because if they default then we all have to pay more*." Similarly, P5: *". . . they are like fraudsters [. . .] it's always wrong because it's against the law."*

Two participants said that they could understand why people might "*tweak*" information about themselves. Such tweaks were referred to as "*white lies,*" as the person is confident that they can re-pay the loan and just wants to improve their chances of being approved. For example P3: "*I suppose if you definitely know, maybe it's okay to do it, I wouldn't say the right thing to do it, if you know you can pay it back, so it's*

kind of like a white lie. I suppose it's wrong if you definitely can't pay it back, then I don't think you should, because it has a knock-on effect." Similarly, P6: "*Sometimes they do it for good reason, and I can understand them telling little white lies [. . .] If you've got a basic wage, but perhaps you do overtime once every two weeks, you might exaggerate a little and say that every week, you're getting X amount overtime, so you've got more income than strictly you have. What else might apply? You might forget to admit that you're paying X amount of your credit card every month, so one of your outgoings isn't included in your budget. . .* "

P10 felt that honesty does not pay off: "*I think today, right, the bank seems to want you to actually be completely honest with them and when they are actually completely honest with them they don't actually get what they want, so some people just know how to manipulate and get an advantage so I don't feel sorry for the bank really in that sense because they give it out to the wrong people [. . .] When they have no intention of actually paying the money back at all, then that's absolutely. . . I do believe in paying things back if you are going to use it.*"

P1 said that people might feel less of a need to lie if they were able to provide more information to loan providers about their personal circumstances and how they planned to pay back the loan: "*. . . obviously, I don't think lying is the right way to go about it [. . .]but I mean, where if you're able to provide additional information to explain your circumstance, for instance, like, there might have been a case where you hadn't been able to pay your loan back, so where that would just count against you, if you maybe stick with your circumstances why and maybe how that wouldn't happen again, and so on—then that would make people less willing, less, um, less likely to lie.*"

3.4.3 Study 3: Choosing Not To Apply for Credit Because of Loan Information Requests

Study 3 was a survey exploring experiences of being denied credit. We focus here on a subset of the results associated with applicants choosing not to apply for credit. Participants were asked whether they had ever not applied for credit because of the information that was requested on the application form. If they answered "yes," they were presented with an open text box and asked to write about the experience—what kind of information did the financial service ask for? Why did they not want to disclose this information?

Like Study 1, the survey for Study 3 was created using Limesurvey[13] and took approximately 15 min. to complete. Participants were recruited via the market research company e-Rewards[14] and were rewarded by e-Rewards for their participation. Three hundred and twenty survey responses were collected according to a nationally

[13] "Limesurvey." http://www.limesurvey.org/.

[14] The "e-Rewards" business, subsequently re-branded as Research Now. http://www.researchnow.com/.

representative sampling frame; however 22 were excluded due to incomplete/nonsense responses for the open text questions. Therefore the analysis is based on 298 participants (96 male, 202 female, age range 18–60 + years, mode age 25–39 years). 158 of the sample were in full-time employment, 52 were part-time employed, 17 were self-employed, and 4 were temporary employed. Regarding the other employment categories, 30 were homemakers, 14 were permanently sick/disabled, 12 were students, and 9 were retired (note that participants could select more than one category). All 298 participants had experience of being denied credit, this being a pre-requisite for taking part. Regarding their current financial circumstances, 168 described themselves as being in "manageable debt," 60 as being in "problem debt," 52 as "debt free," 13 were on an Individual Voluntary Agreement, and 5 were bankrupt.

Thirty six (12%) reported that they did not proceed with an application due to the information requested. 28/36 provided clear descriptions of what happened:

- 12 participants "*knew*" that they would be rejected due to their previous debts and did not want their credit record to deteriorate further by having a refusal of credit added to their record. For example P37: "*I no longer apply for any credit as I do not want to make my credit rating worse by being refused.*"
- 7 participants did not want to disclose information that they thought would put them in a negative light. For example P160: *"Overdraft extension. Did not wish to disclose that I was unemployed."* P93: *"It was a personal loan. When I still had a CCJ [county court judgment] on my record I hated to have to tell anybody because it did not reflect my current attitude to borrowing, or ability to re-pay."* P182: *"I am a recipient of income support and when applying for a loan from the social fund I set the application aside because I did not wish to explain my debts."*
- 4 participants described a "*fear of rejection.*" Having been denied credit in the past, they did not want to go through the embarrassment again. For example P55: *"Every time I go into a store and they offer me a store card I refuse because I am scared of being rejected."*
- 3 participants did not apply for credit because they felt that the information being asked for was not relevant, particularly when it was information about their partner or spouse. For example P38: *"Completing surveys, buying a car, home insurance. None of their business how old I am or what my profession is or my wife's."* P202: *"Credit card companies always want to know about your spouse's income/debts etc, which I don't feel should be relevant if you are applying for a card yourself and you have income."* P50: *"Store credit agreement. Wanted information about my husband whilst I was separating from him. I explained this but they would not continue the sale."*
- 2 participants did not apply for credit because of the level of detail the loan provider wanted. For example P194: *"[Store] credit card, they wanted 3 months of bank statements so I didn't progress with the application."* P176: *"An unsecured loan with a guarantor and they wanted too much information regarding my guarantor's mortgage details."*
- 1 participant did not apply for credit because she did not want to give her phone number.

Table 3.3 Study findings and privacy issues

Finding		Study	Privacy issue
1	Applicants do not consider all of the information in application forms relevant	1, 2, 3	Perceived relevance of information requested
2	Applicants are discouraged by the level of detail that is needed for some loan information requests	2, 3	Perceived relevance of information requested
3	Applicants are uncomfortable giving information that could portray them in a negative light to a loan provider	1, 3	Expected usage of information provided
4	Applicants have concerns that phone numbers will be used to contact them at awkward times, or passed onto third parties	1, 3	Expected usage of information provided
5	Applicants feel like their personal circumstances are not fully considered in application forms	2	Perceived accuracy and fairness of the application process

3.5 Discussion

Five key insights can be drawn from the research studies regarding applicants' perceptions of loan application items, see Table 3.3. These findings relate to three privacy issues:

1. Perceived relevance of information requested;
2. Expected usage of information provided;
3. Perceived accuracy and fairness of the application process.

For the purposes of this chapter, one privacy issue has been assigned to each finding. It is important to note however that there is likely to be some degree of overlap between all three privacy issues. For example, for Findings 1 and 2, perceived relevance indirectly relates to whether participants thought the items were going to be used to assess them fairly (e.g., expected usage and perceived accuracy). Similarly, for Finding 3, some participants thought that the usage of their information was unfair (perceived accuracy).

The privacy issues, and the study findings related to these issues, will now be discussed.

3.5.1 Perceived Relevance of Information Provided

The perceived relevance of information requested on application forms was an important factor for how comfortable applicants felt with disclosing information. The following information requests were viewed as irrelevant: *value of other assets*, *total balance of investments*, *total savings balance* (Study 1); *next of kin*, *marital status*

(Study 2); information about partner's finances (Study 3). In some cases—e.g., *bank statements*, *mortgage details*—participants viewed the level of detail requested as unnecessary (Study 2, Study 3); providing this information represented a lot of effort for the participants, and at the same time, it was not clear to respondents why it was needed.

From the loan providers' perspective, all of these items are relevant, necessary and fair (see Sect. 2.1)—thus applicants' perceptions of how loan providers use information are inaccurate. It is the lack of transparency surrounding *why* these items are needed that creates inaccurate perceptions and leads to applicants second-guessing. As stated in the introduction, loan providers currently do not explain the purpose of these questions because they fear applicants might "game" their answers. However our findings suggest that applicants being asked for information that they do not think is relevant leads to a negative perception of the motivation of loan providers, and—as shown in Study 3—it can put applicants off applying altogether. While it is a good idea not to encourage applicants that have no chance of being approved (because being refused a loan can lower credit rating further)—putting off eligible applicants is a poor outcome for both loan providers and applicants. Greater transparency of the loan application procedure would help, if this can be done without enabling applicants to "tweak" their answers.

3.5.2 Expected Usage of Information

The expected usage of the information was another important factor for how comfortable participants felt with disclosure. Participants were uncomfortable with disclosing information that they thought would show them—unfairly in their view—in a negative light (Study 1); and this was a reason why 7 participants chose not to apply for credit (Study 3). An example of these diverging interpretations is that loan providers see savings as a positive indicator of ability to re-pay, whereas applicants think they will be denied on the grounds of "no need" (Study 1). Some participants thought that if they left any of the information requests blank this would also be viewed negatively by the loan provider (Study 1). Again these findings suggest that greater transparency is needed in terms of why information is requested, because currently: (1) applicants are second guessing the fairness of the assessment; and (2) applicants are unsure whether they need to fulfill all information requests (Kerr et al. 2006).

A further issue was the use of phone numbers. The loan information requests *work phone number* and *mobile phone number* were rated negatively for comfort (Study 1). One participant chose not to apply for credit because she did not want to disclose her phone number (Study 3). These findings suggest that loan providers should explain how phone numbers are going to be used and allow applicants more control over when they will be contacted: if applicants think the information being disclosed might be used to contact them at awkward times, or subsequently passed onto third parties for another purpose (e.g., marketing), then they will view it as a potential privacy risk.

3.5.3 *Perceived Accuracy and Fairness of the Application Process*

In Study 2, five participants said that they would like to give additional information in support of their loan application. This included: (1) providing details of future employment or the likelihood of a well-paid job after completing studies; and (2) providing more information about their personal circumstances and how they plan to re-pay the loan. The ability to volunteer relevant details about their personal circumstances might reduce the perceived need to "tweak" the responses to questions that are seen to be too narrow.

Our findings suggest that loan providers must make more effort to make applicants feel *understood*: (1) currently some applicants do not feel that they are able to accurately express their ability to re-pay in credit application forms; and (2) this inability to fully express themselves is part of the reason why a small proportion of applicants decide to "tweak" their responses, which can have a negative impact on data quality.

3.6 Conclusions

Overall, our use of both quantitative and qualitative methods, and comparing results across studies, has allowed us to gain a more detailed understanding of applicants' perceptions of information requested on loan application forms. Perceived relevance of information requested, expected usage of information provided, and perceived accuracy and fairness of the application process, are all factors that influence how *sensitive* an applicant perceives the application form to be. These privacy issues are similar to those discussed in other privacy contexts such as multimedia communication,[15] providing support for Adams and Sasse's privacy model.

Our research findings suggest that, when privacy issues are not addressed, this leads to second guessing, wrong perceptions of how information is used, and a negative perception of loan providers. Some viable applicants are put off the application process altogether, which represents lost business for loan providers.

In the remaining part of this chapter, we propose three recommendations of how loan providers could improve the perceptions and satisfaction of potential customers without necessarily reducing the efficacy of the risk management process (see Table 3.4).

[15] See Chap. 2.2, note 13. (1) Adams and Sasse, "Privacy in multimedia communications: Protecting users, not just data", 49–64. (2) Culnan, "How did they get my name? An exploratory investigation of consumer attitudes towards secondary information use", 341, 363.

Table 3.4 Privacy issues and recommendations

Privacy issue	Recommendation
Expected usage of information provided	1 Let applicants specify how and when they want to be contacted 2 Informed consent for data sharing with third parties
Perceived relevance of information requested Perceived honesty and fairness of the application process	3 Application form customization, e.g., making some data items optional and allowing a wider range of items

3.6.1 Let Applicants Specify How and When They Want To Be Contacted

Loan providers should allow applicants to state how and when they want to be contacted in credit application forms, i.e., indicating preferred phone number and preferred time of contact. This would improve customer satisfaction and potentially lead to lower costs as less effort is wasted on unsuccessful calls.

3.6.2 Informed Consent for Data Sharing With Third Parties

The UK Data Protection Act of 1998 states that "*Personal data shall be obtained only for one or more specified lawful purposes, and shall not be further processed in any manner incompatible with that purpose or those purposes.*"[16] This means that if a loan provider collects data for risk assessment purposes, it cannot be passed onto a marketing company for telemarketing purposes. However many applicants might be giving away their consent without realizing it, by accepting the terms and conditions of the loan without reading the small print. Also applicants might view third party data use as something one has to accept in order to get the loan; again the application form being viewed as a type of "*all-or-nothing*" transaction (Kerr et al. 2006). Therefore, even if the information sharing is legal, it is evident that individuals are not really exercising informed consent.

In order for applicants to give informed consent,[17] loan providers must: (1) give an explanation of how the information will be used; and (2) if there is other usage, such as marketing, it should be made clear that refusal will have no implication for the loan application. Recently it has been suggested that technological systems can increase transparency in data sharing. For example, the EnCoRe technical architecture

[16] *UK Data Protection Act 1998*, c. 29. http://www.legislation.gov.uk/ukpga/1998/29/section/29.

[17] See Chap. 2.2, note 14. Friedman, Lin and Miller, "Informed consent by design", 495–521.

(Mont et al. 2010) enables clients to view and edit how their information is shared; allowing clients to express their consents and revocations about the usage, processing and disclosure of their personal data. A similar system could possibly be used in the context of lending.

If loan providers did allow applicants to enact true informed consent, there could potentially be commercial resistance. For example, when Bankcorp was caught selling its data to telemarketers in 1999, Gellman (2002) writes that "*it is hard to believe that many U.S. Bancorp customers would have agreed to the data sharing of credit card and Social Security numbers.*" There is evidence, however, that people are willing to give information away when they can see the benefits from sharing (e.g., receiving special promotions) or are given small incentives (e.g., prize draws; Acquisti 2009). Previous research also suggests that satisfaction with a loan application process plays a central role to customers' loyalty to a financial service provider, and its profitability (Johnson et al. 1996).

3.6.3 Application Form Customization

The industry has moved from relationship banking to transactional banking due to the sheer volume of customers—instead of seeing a bank manager in a High Street branch, most transactions are conducted online or via call centers. Our research suggests that customers' mental models have not caught up with this development—they want a relationship with their financial service provider, and want to feel that they are being considered and treated as individuals. Gaining applicants' confidence should therefore be a key consideration for loan providers.

Currently applicants are viewing the application form as a type of "*all-or-nothing*" transaction.[18] Past research, however, suggests missing data is not necessarily a reliable indicator of how risky a customer is: from the point of view of the score card, there are ways to cope with missing data.[19] Therefore, allowing applicants not to answer certain questions might resolve the transparency-gaming dilemma. As applicants might try to game the system—choosing to not answer items that might show them in a negative light—it would be important to keep key items compulsory. Score card developers would need to invest time researching how many items, and which items, could be made optional without reducing the score card's efficacy.

Past research also suggests that sometimes loan providers allow applicants to give extra information, even though the loan provider does not actually intend to use it, because it makes the applicant feel more comfortable.[20] However this does not solve the problem—people do not want to just "talk," they want to actually be listened to. Therefore the challenge for loan providers is to give applicants better quality

[18] See Chap. 6.1, note 26. Kerr, Barrigar, Burkell and Black, "Soft surveillance, hard consent", 1–14.

[19] Expert 4, a university professor with a background in consumer finance statistics research.

[20] See Chap. 2.2, note 12. Expert 2, a representative from a peer-to-peer lending company.

of care and a more personal experience, but in a way that is manageable and can be conducted on a large-scale. One route is to investigate making available a wide range of optional items, allowing applicants some degree of customization of the application form. Our group is currently investigating the acceptability to applicants of a wide range of hypothetical items (Jennett et al. 2010). Any items found to be acceptable enough would then need to be further investigated for their predictive power.

Overall, our recommendations demonstrate that there are potential ways to maintain the efficacy of the loan risk assessment process, and at the same time respect applicants' privacy and choice on what they disclose. Future research is needed to check how such measures could be implemented effectively—however, when considering privacy for applicants versus loan providers' needs for predictive power, one can conclude that it does seem possible to "bridge the gap."

References

Acquisti, Alessandro. 2009. Nudging privacy: The behavioural economics of personal information. *IEEE Security and Privacy* 7:82–86. doi:10.1109/MSP.2009.163.

Adams, Anne, and Angela Sasse. 2001. Privacy in multimedia communications: Protecting users, not just data. In *People and computers XV—interaction without frontiers: Joint Proceedings of HCI 2001 and IHM 2001*, ed. Ann Blandford, Jean Vanderdonckt and Phil Gray, 49–64. London: Springer. ISBN-13: 978–1852335151.

Braun, Virginia, and Victoria Clarke. 2006. Using thematic analysis in psychology. *Qualitative Research in Psychology* 3 :77–101. doi:10.1191/1478088706qp063oa.

Culnan, Mary J. 1993. How did they get my name? An exploratory investigation of consumer attitudes toward secondary information use. *MIS Quarterly* 17:341–363. http://www.jstor.org/stable/249775. Accessed 10 Dec 2011.

Department for Work and Pensions. 2009. Households below average income (HBAI), 1994/95–2007/08", ed. Nick Adams, George Johnson, Peter Matejic, Rupesh Vekaria and Julia Whatley, 190. Crown Copyright, 2009. http://research.dwp.gov.uk/asd/hbai/hbai2008/index.php?page=contents. Accessed 10 Dec 2011.

Friedman, Batya, Peyina Lin, and Jessica K. Miller. 2005. Informed consent by design. In *Security and usability: Designing secure systems that people can use*, ed. Lorrie Cranor and Simson Garfinkel, 495–521. Sebastopol: O'Reilly. ISBN-13: 978–0596008277.

Gellman, Robert. 2002. Privacy, consumers, and costs: How the lack of privacy costs consumers and why business studies of privacy costs are biased and incomplete. *Digital Media Forum*, Ford Foundation. http://epic.org/reports/dmfprivacy.html. Accessed 10 Dec 2011.

HM Treasury. 2010. Speech by the Financial Secretary to the Treasury, Mark Hoban MP, at Reform. http://www.hm-treasury.gov.uk/speech_fst_011210.htm. Accessed 10 Dec 2011.

Jennett, Charlene, Sacha Brostoff, Miguel Malheiros, and M. Angela Sasse. 2010. Investigating loan applicants' perceptions of alternative data items and the effect of incentives on disclosure." *Privacy and Usability Methods (PUMP) Workshop*, British HCI Conference. http://scone.cs.st-andrews.ac.uk/pump2010/papers/jennett.pdf. Accessed 10 Dec 2011.

Johnson, Michael D., Georg Nader, and Claes Fornell. 1996. Expectation of perceived performance, and customer satisfaction for a complex service: The case of bank loans. *Journal of Economic Psychology* 17 :163–182. doi:10.1016/0167–4870(96)00002–5.

Kamleitner, Bernadette, and Erich Kirchler. 2007. Consumer credit use: A process model and literature review. *Revue Européenne de Psychologie Appliqué* 57:267–283. doi:10.1016/j.erap.2006.09.003.

Kerr, Ian, Jennifer Barrigar, Jacquelyn Burkell, and Katie Black. 2006. Soft surveillance, hard consent. *Personally Yours* 6:1–14. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=915407. Accessed 10 Dec 2011.

MacCarthy, Mark, and Robert Gellman. 2010. The consumer financial protection bureau needs a privacy office. *Privacy & Security Law Report* 2010, Bureau of National Affairs Inc. http://explore.georgetown.edu/publications/51958/. Accessed 10 Dec 2011.

Mont, Marco Cassasa, Yun Shen, Gina Kounga, and Siani Pearson. 2010. Technical architecture for the first realized case study. *EnCoRe Project Deliverable* D2.1, version 1.0. http://www.encore-project.info/deliverables_material/D2.1%20EnCoRe%20Architecture%20V1.0.pdf. Accessed 10 Dec 2011.

Raab, Charles. 2004. The future of privacy protection. *Cyber Trust & Crime Prevention Project*. http://www.mendeley.com/research/future-privacy-protection/#. Accessed 10 Dec 2011.