Using Multiple Methods to Assess Usability

Credit Card Disclosure Documents Study
February 2006

Introduction

This case study will cover:

- Usability evaluation of printed materials
- How we used multiple usability methods to assess the documents, confirm our findings and make recommendations

Background

Congress is concerned about consumer debt:

- Average U.S. family carries eight credit cards.
- Credit card debt and personal bankruptcies at an all-time high.
- 35 million consumers pay only the minimum each month
- Credit cards are the most profitable sector of the U.S. banking industry: $30 billion in profits last year.
- Most consumers do not know the terms of their agreement with the companies that issue their cards

The project

GAO wanted to assess the usability of credit card disclosure documents:

- identify where and how the materials are problematic for consumers
- provide recommendations for improvement

They wanted to test solicitation letters and cardmember agreements from four different issuers -- a total of 11 documents.

Sample usability issue

Annual percentage rate (APR) for purchases	0% until September 1, 2006. After that, **8.99%.**
Other APRs	Balance transfer APR: 0% until September 1, 2006. After that, 8.99%. Cash advance APR: 21.24%. Default APR: 30.24%. See explanation below.*
Variable rate information	Your APRs may vary each billing period. The purchase and balance transfer rate equals the U.S. Prime Rate** plus 2.74%. The cash advance rate equals the U.S. Prime Rate plus 14.99%, with a minimum cash advance rate of 19.99%. The default rate equals the U.S. Prime Rate plus up to 23.99%.***
Grace period for repayment of balances for purchases	Not less than 20 days if you pay your total new balance in full each billing period by the due date.
Method of computing the balance for purchases	Average daily balance (including new purchases).
Annual fees	None.
Minimum finance charge	50 cents.
Transaction fee for purchases made in a foreign currency	3% of the amount of each foreign currency purchase after its conversion into U.S. dollars.

Transaction fee for cash advances: 3% of the amount of each cash advance, $5 minimum.
Transaction fee for balance transfers: 3% of the amount of each balance transfer, $5 minimum, $75 maximum. However, there is no fee with the 0% APR balance transfer offer described above.
Late fee: $15 on balances up to $100; $29 on balances of $100 up to $1,000; and $39 on balances of $1,000 and over.
Over-the-credit-line fee: $35.

Sample usability issue

8.99 percent? Hooray!

But wait, what's in the fine print …

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* All your APRs may automatically increase up to the Default APR if you default under any Card Agreement that you have with us because you fail to make a payment to us when due, you exceed your credit line, or you make a payment to us that is not honored.

** For each billing period we use the U.S. Prime Rate published in *The Wall Street Journal* two business days prior to the Statement/Closing Date for that billing period.

*** Factors considered in determining your default rate may include how long your account has been open, the timing or seriousness of a default, or other indications of account performance.

We apply your payments to low APR balances before higher APR balances. That means your savings will be reduced if you make transactions that are subject to higher APRs.

Rates, fees, and terms may change: We may change the rates, fees, and terms of your account at any time for any reason. These reasons may be based on information in your credit report, such as your failure to make payments to another creditor when due, amounts owed to other creditors, the number of credit accounts outstanding, or the number of credit inquiries. These reasons may also include competitive or market-related factors. If we make a change for any of these reasons, you will receive advance notice and a right to opt out in accordance with applicable law.

What we did

We conducted three different evaluations of the materials:

- readability analysis
- heuristic evaluation
- 12-person usability test

The results will be reported to Congress, which may legislate changes to the materials. So we wanted to be as certain of our findings and recommendations as we could, given the limited budget.

Why do it that way?

	Strengths	Weaknesses
Readability analysis	Simple to apply. Quick & cheap. Easy to understand metric: grade level needed to understand material.	Only measures what can be counted. Ignores more important characteristics of writing. Doesn't mean much; a "red flag" only.
Heuristic evaluation	Established best practices. Predicts where and why users will encounter difficulties. Gives guidelines for improvement. Also relatively cheap.	Doesn't necessarily mean users will encounter problems where predicted.
Usability testing	Assesses how well representative users are able to use interface. Identifies where they have problems. Provides insight into why they have problems.	Artificial environment. What users *say* vs *actually* do. Small sample size. More extensive effort. Relatively expensive.

Readability Analysis

Readability formulas

Used Readability Calculations software to analyze the materials using several formulas:

- **Flesch Grade Level**: Uses average sentence length and average syllables per word to predict grade level required to understand 75% of the material.
- **FOG** (Frequency of Gobbledygook): Uses average sentence length and number of difficult words (3+ syllables) to predict grade level required to understand 90% of the material.
- **SMOG** (Simplified Measure of Gobbledygook): Uses number of difficult words and number of sentences in a passage to predict grade level required for 100% comprehension.

Readability of whole document

Material	Type	Flesch Grade	FOG	SMOG	Avg Grade
Bank of America	SL	10.4	12.8	12.1	11.77
Chase	SL	9.8	12	11.5	11.10
Citibank	SL	8.5	10.3	10.6	9.80
Discover	SL	10.8	13.9	12.9	12.53
Bank of America	CA	9.7	12	11.6	11.10
Chase	CA	10.9	13.4	12.3	12.20
Citibank	CA	10.9	13.3	12.3	12.17
Discover	CA	12.3	14.9	13.5	13.57
SL Average		9.88	12.25	11.78	11.30
CA Average		10.95	13.40	12.43	12.26
Combined Avg		10.41	12.83	12.10	11.78

The average disclosure document is written at around 12th grade level.

Most of us read 2-5 grade levels lower than the last year of education.

Plain language guidelines recommend writing at 6th-8th grade level.

Readability of certain sections

Material	Type	Flesch Grade	FOG	SMOG	Avg Grade
Bank of America	SL	16.2	18.3	15.5	16.67
Chase	SL	9.4	11.6	11.6	10.87
Citibank	SL	5.8	7.7	8.2	7.23
Discover	SL	10.2	12.4	10.5	11.03
Bank of America	CA	12.5	15.2	13.6	13.77
Chase	CA	10.4	14	12.6	12.33
Citibank	CA	17.1	20.1	15.3	17.50
Discover	CA	30.1	32.7	21.1	27.97
SL Average		10.40	12.50	11.45	11.45
CA Average		17.53	20.50	15.65	17.89
Combined Avg		13.96	16.50	13.55	14.67

Sections explaining interest rates, finance charges, and payment allocation are much more difficult. (Sample shown is for APR).

What we learned

The results of the readability formulas indicate that text may be too difficult for the average reader and may need to be simplified.

Concepts that have the biggest affect on consumer debt are even more difficult.

Heuristic Evaluation

The heuristics we used

A Plain English Handbook:
How to Create Clear
SEC Disclosure Documents

Developed by the U.S. Securities and Exchange Commission in 1998.

http://www.sec.gov/news/extra/handbook.htm

Selected guidelines

Organization
- Present the big picture before the details
- Use headers to break info into manageable sections
- Group related information

Content
- Keep words, sentences and paragraphs short and simple
- Use active voice
- Omit unnecessary details

Design
- Establish a visual hierarchy
- Use a legible type size
- Emphasize text sparingly
- Use left justified, ragged right text
- Use tables and bulleted lists to simplify presentation

Solicitation letters

THE GOOD

Use of a table to simplify presentation.

Text emphasized sparingly.

Some sentences are short and simple.

Use of active voice.

Legible type size (11 pt.)

CITIBANK DISCLOSURES

Annual percentage rate (APR) for purchases	0% until September 1, 2006. After that, **8.99%.**
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Solicitation letters

THE BAD

Very little hierarchy (almost all type is the same size)

Related information not grouped.

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Solicitation letters

THE BAD

Long, complex sentences.

> [3]If at any time during any rolling consecutive twelve billing cycle period you fail to make two Minimum Payments on a timely basis or exceed your Credit Limit twice we may elect to increase your Purchase, Cash Advance and/or Balance Transfer APRs to the Penalty APRs. All Penalty APRs will remain in effect until, in a subsequent rolling consecutive six billing cycle period, you do not exceed your Credit Limit at any time and you make all of your required Minimum Payments on a timely basis when, in your next billing cycle, all Penalty APRs will no longer apply.

Jargon

Method of Computing the Balance for Purchases	Two-cycle Average Daily Balance (including new purchases)
Annual Fee: NONE	**Minimum Finance Charge:** $.50

CASH ADVANCE TRANSACTION FEE: 3% for each cash advance, with a minimum of $5 and no maximum. **LATE FEE:** $15 on balances up to $100; $25 of $1,000 and greater. **OVERLIMIT FEE:** $15 on balances $1,000 or less; $35 on balances greater than $1,000.

Very small fine print (and a lot of it).

Cardmember agreements

THE GOOD

Table of contents helps give users an overview of content available and direct access to it. (Discover)

CARDMEMBER AGREEMENT

Headings that make sense and are easy to pick out also help users find the information they seek. (Citibank)

Short sentences, conversational tone, active voice. (Citibank)

How We Determine the Balance:
The total outstanding balance (the amount you owe us) appears as the "New Balance" on the billing statement. To determine the New Balance, we begin with the outstanding balance on your account at the beginning of each billing period, called the "Previous Balance" on the billing statement. We add any purchases or cash advances and subtract any credits or payments credited as of that billing period. We then add the appropriate finance charges and fees and make other applicable adjustments.

Annual Percentage Rates for Purchases and Cash Advances:
Your annual percentage rates and the corresponding daily periodic rates appear on the card carrier. A daily periodic rate is the appli-

Cardmember agreements

THE BAD

Some passive voice

Legalese

Long sentences (70+ words)

Common terms are capitalized

Jargon

Fill justified text

Obligations On Your Account: You authorize us to pay and charge your Account for all Purchases and Cash Advances made or obtained by you or anyone you authorize to use your Card or Account. You promise to pay us for all of these Purchases and Cash Advances, plus any Finance Charges assessed on your Account and any other charges and fees which you may owe us under the terms of this Agreement. You will be obligated to pay authorized charges to your Account whether resulting from (1) actual use of your Card or Convenience Checks, (2) mail order or telephone, computer or other electronic Purchases made without presenting the Card or (3) any other circumstance where you authorize a charge, or authorize someone else to make a charge, to your Account. Each person who is included within the definition of the term "you", above, is responsible to pay the full amount owed on the Account. We may require that you pay the full amount owed without first asking the other person(s) to pay. All payments must be made in U.S. dollars. Any payment made by check or other negotiable instrument must be drawn on a U.S. bank or a U.S. branch of a foreign bank.

Payment Allocation: You agree that we are authorized to allocate your payments and credits in a way that is most favorable to or convenient for us. For example, you authorize us to apply your payments and credits to balances with lower **Annual Percentage Rates** ("APRs") (such as promotional APRs) before balances with higher APRs for all balances except promotional balances for Disney vacation packages.

Credit Line/Authorized Usage: Your credit line is shown on the folder containing your Card. Since we may change your credit line from time to time, your latest credit line will appear on your monthly statement. You agree not to make a Purchase or obtain a Cash Advance that would cause the unpaid balance of your Account to exceed your credit line. We may honor Purchases and Cash Advances in excess of your credit line at our sole discretion. If we do, this Agreement also applies to that excess and you agree to pay the excess immediately if we request that you do so. You agree that we may change or cancel your credit line at any time without affecting your obligation to pay amounts that you owe under this Agreement. We may designate that only a portion of your credit line is available for Cash Advances. If we do and you exceed that limit, you will be considered to have exceeded your credit line for all purposes of this Cardmember Agreement. For security reasons, we may limit the number or dollar amount of Purchase, Cash Advance and/or Convenience Check transactions that may be accomplished with your Card or Account, and we have the right to limit authorizations to make Purchases or obtain Cash Advances if we consider it necessary to verify payments received on your Account.

Periodic Statements: We will send a statement at the end of each monthly billing cycle in which your Account has a debit or credit balance of more than $1.00 or if a Finance Charge has been imposed. Among other things, your monthly statement will show your New Balance, any Finance Charge, your credit line and available credit,

Complete reliance on prose; few tables, bulleted lists or examples

Headings are present, but are not easy to locate

Headings don't always describe paragraph content

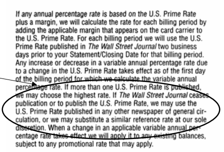
Very little hierarchy; key information not emphasized

Cardmember agreements

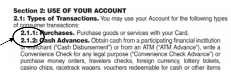
THE BAD

Unnecessary information

Is it really necessary to describe what happens if the Wall Street Journal ceases publication?


If any annual percentage rate is based on the U.S. Prime Rate plus a margin, we will calculate the rate for each billing period by adding the applicable margin that appears on the card carrier to the U.S. Prime Rate. For each billing period we will use the U.S. Prime Rate published in *The Wall Street Journal* two business days prior to your Statement/Closing Date for that billing period. Any increase or decrease in a variable annual percentage rate due to a change in the U.S. Prime Rate takes effect as of the first day of the billing period for which we calculate the variable annual percentage rate. If more than one U.S. Prime Rate is published, we may choose the highest rate. If *The Wall Street Journal* ceases publication or to publish the U.S. Prime Rate, we may use the U.S. Prime Rate published in any other newspaper of general circulation, or we may substitute a similar reference rate at our sole discretion. When a change in an applicable variable annual percentage rate takes effect we will apply it to any existing balances, subject to any promotional rate that may apply.

Unnecessary numbers don't correspond to anything useful like a table of contents. Readers must actively ignore the information.


Section 2: USE OF YOUR ACCOUNT

2.1: Types of Transactions. You may use your Account for the following types of consumer transactions:

2.1.1: Purchases. Purchase goods or services with your Card.

2.1.2: Cash Advances. Obtain cash from a participating financial institution or merchant ("Cash Disbursement") or from an ATM ("ATM Advance"), write a Convenience Check for any legal purpose ("Convenience Check Advance") or purchase money orders, travelers checks, foreign currency, lottery tickets, casino chips, racetrack wagers, vouchers redeemable for cash or other items

Usability Test

Test procedure

- Use one company's solicitation letter to accomplish tasks
- Take a break
- Use another company's cardmember agreement for a similar set of tasks.

We tested these materials with 12 users. Each document was used three times by different participants.

What we asked

Task 4: Late Fee
4A: Let's say your credit card bill is due on the 15th of every month. What happens if your payment is received after the bill is due?
4B: How much will they charge?
Task 5: Overlimit Fee
5A: Let's say you can charge up to $5,000 on this card and that's exactly what you've done. You're maxed out. But there's one more thing you want to charge. What happens?
5B: How much will they charge you for doing that?
5C: What's the term they use for that amount?

What we wanted to find out

- Could they use the documents to find information?
- Did they understand what they found?

What we found

Performance Data

What we found

- **Consumers disliked using disclosure documents**

"It's horrifying to read these things"

"I feel like my brain has stopped."

"I didn't major in banking."

"It's so tiny, it's not meant for everyone to see it." (0:20)

"These things drive me crazy; I don't like to look at them."

"This is a scary document. I hope I never have to use it."

"You need a financial analyst to understand [this table]."

"It's as if they don't want you to read it."

"If they told you everything you would not take the card."

"Well, it's easier than doing your taxes."

What we found

- **The Schumer box wasn't as easy to use as intended**

The table on the back of solicitation letters should have made basic rate and fee information easy to find, but certain characteristics—extensive footnotes, small type, wordiness, jargon—made it much more difficult.

trouble finding late fee (0:39)

What we found

- **Cardmember agreements are difficult to use**

They're wordy, dense, hard to read, use jargon, and do not emphasize important information.

looking for default rate (0:45)

minimum payment (0:25)

What we found

- **Even if participants found info, they often failed to interpret it correctly**
  - amount of cash advance (0:38)
  - grace period (0:37)

What we found

- **Visibility of "Change in Term" info may act as a deterrent to learning about triggers**

Participants did understand that card companies "can change anything at any time for any reason" but this may also have led users to pay less attention to the information in the documents. They appeared to have little concern about what actions (by them or others) could trigger a change, because, as they kept pointing out, the terms could change at any time for any reason.

To sum up

Questions?

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