

# Usability Metrics for Online Shopping

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## 1 Introduction

For our tests, we chose the world of online shopping. For our shopping websites, we chose Amazon, eBay, and Shopzilla. For our three metrics, we chose learnability, efficiency, and satisfaction. Learnability is on a scale from 1-5: 1 being difficult to familiarize with, 5 being easy to accomplish the task. Efficiency is measured by seconds of completion. Satisfaction is based on a 1-10 scale: 1 being absolutely unhappy, 10 being extremely satisfied. For our three tests, we chose:

1. Buying a product: a USB stick (test subject was told to find a USB stick they would personally buy)
2. Profile change: adding and a credit card number
3. Narrowing a product down simply by using the navigation provided: Nokia Lumia 920

## 2 Users

Here is a summary of each user and their overall proficiencies:

1. This user is a Modern Languages major with a decent amount of experience of shopping on line.
2. This user is an English major who doesn't really shop online, yet has a strong domain knowledge about computers.
3. This user is a Computer Science major who shops a decent amount online.
4. This user is a Computer Science major who shops pretty often online.
5. This user is a Computer Science major who shops less than normal.

### 3 Tests

All testers have signed in on Amazon and eBay before beginning tests.

#### 3.1 Buy a USB stick

The efficiency for eBay and Shopzilla is faster than Amazon other shopping sites because efficiency was only measured up to checkout.

##### 3.1.1 User #1

	Learnability	Efficiency	Satisfaction
Amazon	4	0:41s	7
eBay	3	0:24s	7
Shopzilla	2	0:39s	6

##### 3.1.2 User #2

	Learnability	Efficiency	Satisfaction
Amazon	5	0:37.5s	8
eBay	5	0:17s	6
Shopzilla	4	0:20s	7

##### 3.1.3 User #3

	Learnability	Efficiency	Satisfaction
Amazon	4	0:34s	10
eBay	5	0:25s	10
Shopzilla	5	0:34s	8

##### 3.1.4 User #4

	Learnability	Efficiency	Satisfaction
Amazon	4	0:20s	7
eBay	3	0:33s	8
Shopzilla	5	0:53s	6

##### 3.1.5 User #5

	Learnability	Efficiency	Satisfaction
Amazon	4	0:32s	8
eBay	5	0:22s	10
Shopzilla	5	1:01s	4

### 3.1.6 Average of all 5 test subjects

	Learnability	Efficiency	Satisfaction
Amazon	4.2	0:32.9s	8
eBay	4.2	0:24.2s	8.2
Shopzilla	4.2	0:41.4s	6.2

## 3.2 Analysis

The learnability is equal amongst all three shopping websites because finding a USB stick isn't too hard. Shopzilla had pop-ups showing direct checkout for certain products which made learnability higher for that shopping website. eBay made it very easy to arrive to checkout. The overall interface of the website did not clearly determine a "winner" in terms of learnability. The efficiency is also fairly equal amongst all websites (due to the fact that the times for Shopzilla and eBay are up to checkout). Satisfaction was also fairly in the same level. Satisfaction is partially related to website appeal, so this metric is somewhat subjective. There was mention that the pop-up of the two day shipping hindered results for Amazon, but this simply seems like a personal preference.

## 3.3 Profile change: Add credit card number

This test is omitted for Shopzilla because they are an aggregate website for other shopping websites. For eBay, the test needed to be done through Paypal because eBay uses PayPal as a payment method.

### 3.3.1 User #1

	Learnability	Efficiency	Satisfaction
Amazon	5	1:01s	7
eBay	1	1:00s	5
Shopzilla	-	-	-

### 3.3.2 User #2

	Learnability	Efficiency	Satisfaction
Amazon	1	1:24s	7
eBay	3	0:49s	7.5
Shopzilla	-	-	-

### 3.3.3 User #3

	Learnability	Efficiency	Satisfaction
Amazon	5	1:08s	10
eBay	1	1:50s	2
Shopzilla	-	-	-

### 3.3.4 User #4

	Learnability	Efficiency	Satisfaction
Amazon	4	1:21s	9
eBay	3	0:50s	7
Shopzilla	-	-	-

### 3.3.5 User #5

	Learnability	Efficiency	Satisfaction
Amazon	5	0:47s	10
eBay	5	0:37s	10
Shopzilla	-	-	-

### 3.3.6 Average of all 5 test subjects

	Learnability	Efficiency	Satisfaction
Amazon	4	1:08.2s	8.6
eBay	2.6	1:01.2s	6.3
Shopzilla	-	-	-

## 3.4 Analysis

This test was fairly interesting. Since Shopzilla was out of the running, it came down to Amazon and eBay. The learnability for Amazon was interesting because there are so many options for the user to look through. The link "Manage Payment Options" is not the most revealing of titles. In one of the test cases, the user had to use the search bar to find out how to remove a credit card for Amazon (not a test, yet interesting). For eBay, a user had to search google to figure out how to pay as a guest using PayPal. Efficiency for Amazon was "slower" due to having more options for the user to look through.

### 3.5 List filtering for Nokia Lumia 920

#### 3.5.1 User #1

	Learnability	Efficiency	Satisfaction
Amazon	3	1:12s	5.5
eBay	3	0:45s	6
Shopzilla	3	0:25s	5

#### 3.5.2 User #2

	Learnability	Efficiency	Satisfaction
Amazon	1	2:21.28s	6.5
eBay	3	0:53s	8
Shopzilla	3	0:28s	8

#### 3.5.3 User #3

	Learnability	Efficiency	Satisfaction
Amazon	1	1:22s	8
eBay	1	2:25s	3
Shopzilla	5	0:41s	9

#### 3.5.4 User #4

	Learnability	Efficiency	Satisfaction
Amazon	5	0:50s	6
eBay	5	0:41s	8
Shopzilla	1	0:28s	4

#### 3.5.5 User #5

	Learnability	Efficiency	Satisfaction
Amazon	2	0:33s	9
eBay	5	1:01s	4
Shopzilla	1	0:38s	3

#### 3.5.6 Average of all 5 test subjects

	Learnability	Efficiency	Satisfaction
Amazon	2.4	1:15.656s	7
eBay	3.4	1:09s	5.8
Shopzilla	2.6	0:32s	5.8

### **3.6 Analysis**

The learnability for the list filtering did not come to a real clear winner. Every site had some issues using their list navigation for finding the particular phone that we were looking for. In terms of efficiency, Shopzilla blows the other two out of the water. Satisfaction was led by Amazon just slightly.

## **4 Overall Analysis**

According to the results, the shopping site with the highest learnability is Amazon. The shopping site with the highest efficiency is Shopzilla. The shopping site with the highest satisfaction rate is Amazon.