

# Comparative Analysis of E-commerce portal based on user's Feedback- A Cognitive Task Approach

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## Abstract

This research is mainly focused on the online shopping web usability in terms of the product and services they are offering from the user usability point of view. Many big player are doing their online shopping business in India such as Flipkart.com and Ebay.in. They offering the uniform products and services to the users but Are users are attracting towards them? So in our research we analyze what are the factors that a user want from an online shopping websites. We consider big name in online shopping such as Flipkart.com ebay.in, our study and analyze why the user go from which of them to buy. In this research we have done a comparative analysis among these three online shopping providers and find that which one is best and why based on the research result.

## Keywords:

E-commerce, Usability, Cognitive, E-commerce Portal

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## Introduction

When the name internet arises then the first thing which comes to our mind is the websites. Web portals are the interface which provide an easy way of access to the users. E-commerce portal are the platform from which the users can able to access a wide varieties of product and services offered by the service provider. E-commerce portals are the easiest way for doing shopping. These services are depends upon the portal usability means placing the correct thing at correct place. The HCI [1] is basically formed by the web portals, which makes the usability factors very crucial. This is the era of IT and each service provider trying to provide the services in a better way from others so it will become an important thing on which they have to focus more. According to the user point of view the usability relate to EES i.e. Effectiveness, Efficiency and Satisfaction.

Table 1: Global and the India ranking of the Flipkart.com and Ebay.in

Website	Global Rank	India Rank
Flipkart.com	142	10
Ebay.in	364	23

The above table data has been taken from Alexa.com at 26<sup>th</sup> March, 2014, which shows the Global and India ranking of the Flipkart.com and Ebay.in.

## Literature Review

The usability is defined by the ISO 9241-11, 1998[2] is “The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use.”

Shackel (1986) [3] has defined usability in such a way “For any system to be useful if it allows users to perform the required task and possess the following four criteria: Effectiveness, Learnability, Flexibility and Attitude.”

Preece, Rogers, Sharp, Benyon, Holland, & Carey 1994; Sicilia & Garcia, (2003) [4] defines the web usability as “The web usability must consist of learnability, flexibility and throughput and the user’s attitude toward it.”

Head (1999) [5] defined that the face value of usability is the ease-to-use and the cognitive science represents the core value of usability.

Usability has been defined as: "A measure of the quality of a user's experience when interacting with a product or system whether a web site, a software application, mobile technology, or any user operated device" (Anonymous, 2006)[6].

Brink, Gergle and Wood (2002) define usability as the” degree to which people (users) can perform a set of required tasks. It is the product of several, sometimes conflicting, design goals.” (p.2). [7]

A Famous web usability consultant Jakob Nielsen define the usability as a quality

attribute that relate how easy are the user interfaces. Nielsen [8] define the usability by five quality component [9] as shown in fig. 3:

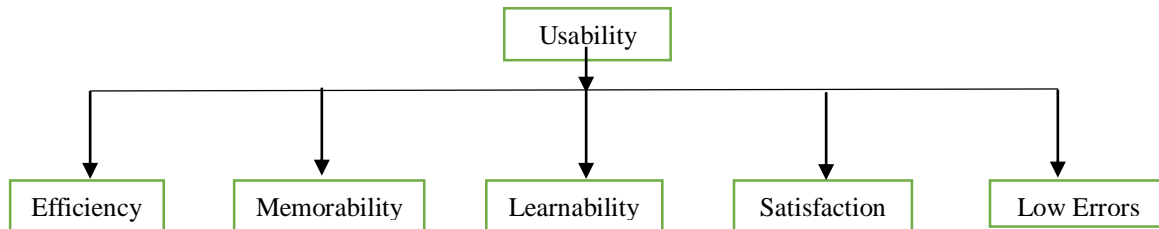


Figure 1: Quality Component of Usability

Rosson and Carroll (2002) [10] identify three perspectives which contribute in concept of usability:

1. Human performance, time, and errors
2. Human cognition, mental models of plans and actions
3. Collaboration, group dynamics, and workplace context

Usability or “ease of use” is fundamental to site design (Dillon & McKnight [11], 1995; Hackos & Redish, 1998[12]; Nielsen, 1993, 2002[13]).

## RESEARCH METHODOLOGY

In our research we have use the cognitive task approach for our analysis we have use the Tobii Studio software for our analysis. In our research we actually want to know that on an E-commerce websites is usable to user in such a manner so that user will feel comfortable while using it.

## Cognitive Task Approach

Cognitive is a word which relate to the psychological aspect, in cognitive task approach we have observed the respondent visual movement on those two particular

websites Flipkart.com and Ebay.in. In this approach we have taken 11 respondent. We have given them two task which they have to perform on those two e-commerce web portals. These respondent are very much familiar about the computer’s basic knowledge. These respondent rated themselves as Beginner, Average and Expert user of internet. After performing the task we have analyze what they have done and try to compare them.

We have used the Tobii software for performing our tasks. Tobii software is designed for such specific purpose for performing the psychological analysis. We have chosen the two e-commerce portals named Flipkart.com and Ebay.in for our study. With the help of Tobii software we are able to track the each step performed by the user to accomplish those two task and when they perform task then we can extract the data from Tobii software and use in our research work.

We have given two task to the respondent.

Task 1: Shopping a product from both E-commerce portals

Task 2: Searching customer support contact number on both E-commerce portals

Through Cognitive Task Approach we can analyze the visual movement of the customers when they are performing the given task.

Flipkart.com:

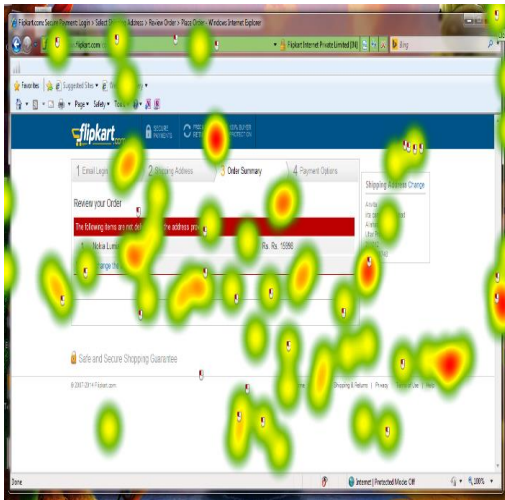


Figure2: Heat Map and mouse click for performing Task 1

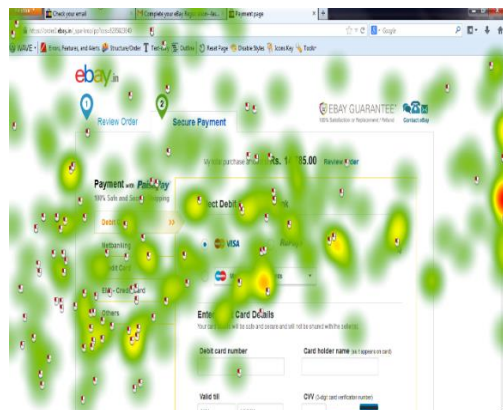


Figure4: Heat Map and mouse click for performing task 1

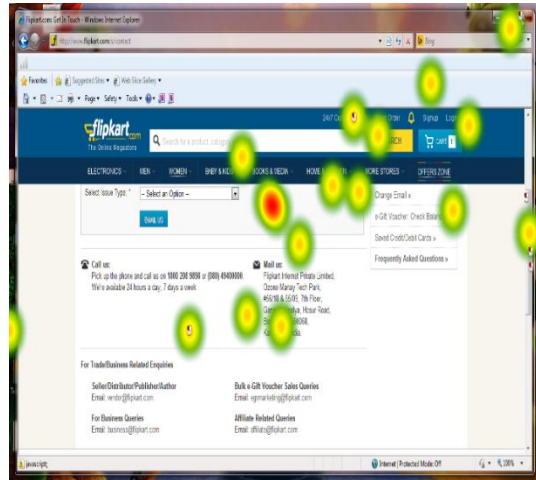


Figure 3: Heat Map and mouse click for performing Task 2

Ebay.in:



Figure5: Heat Map and mouse click for performing task 2.

In the above figure we have analyzed the data in form of heat map and mouse click of the user who perform the task 1 and task 2 for both the e-commerce portals. We have shown the fig. 3 and fig. 4 for the flipkart and fig 5 and fig. 6 for the eBay. You can easily evaluate the things which have been taken place in terms of the mouse click which is obvious from the figures.

In Flipkart.com the respondent has done the less mouse click as compared to Ebay.in in performing both task 1 and task 2.

We have performing this task 1 and task 2 for 11 respondent and the timely data which we have collected is in the table 2.

The data is in minutes with the respondent name, age and gender.

Table 2: Comparative analysis between the Flipkart.com and Ebay.in

Name of Respondent	Age/ Gender	Flipkart.com (Time in minutes)		Ebay.in (Time in minutes)	
		Task 1	Task 2	Task 1	Task 2
Rajveer Singh	21/M	2.21 min.	.20 min.	11.21 min.	1.51 min.
Amrta Jaiswal	22/F	4.15 min.	.45 min.	15.52 min.	5.50 min.
Anita Negi	21/F	3.57 min.	.25 min.	10.23 min.	2.37 min.
Brijendra Yadav	23/M	3.34 min.	1.18 min.	13.23 min.	3.12 min.
Alok Kumar	22/M	3.12 min.	.23 min.	9.45 min	5.38 min.
Deepanshu Kumar	22/M	2.02 min.	.50 min.	11.34 min.	6.31 min.
Neha Srivastava	21/F	2.45 min.	.15 min.	10.56 min	3.07 min.
Aparna Nigam	23/F	3.10 min.	.27 min.	12.56 min.	4.16 min
Vinay Pratap Singh	22/M	4.05 min.	.34 min.	17.20 min.	6.37 min.
Rahul Gurnani	24/M	2.50 min.	.46 min.	12.09 min.	6.30 min
Praveen Kumar	22/M	2.40 min.	.37 min.	10.50 min.	4.50 min.

In above table we have recorder the respondent task and then extract the data from Tobii software. When we plot the graph between the Flipkart.com and Ebay.in for task 1 then we have get the graph as shown in figure 7. We can easily evaluate that the time taken for flipkart.com is less than the Ebay.in.

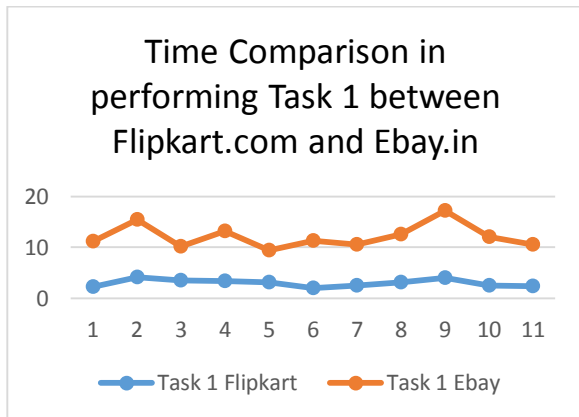


Figure 6: Time Comparison for Task 1

Similarly we have plot the graph for task 2 between flipkart.com and ebay.in and we can again say that the flipkart.com takes less time in performing task 2 as compared to performing the same task on ebay.in.

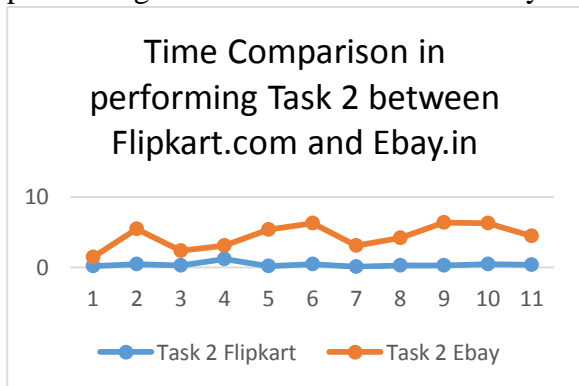


Figure 7: Time Comparison for Task 2

## Conclusion:

Through this research we can easily say that the customers are time conscious means if they feel that it is too much time taking in shopping then they will not stay at that portal for long time. They will defiantly move for some other e-commerce portals. So first thing that should kept in mind is when we place information then it should be relevant place such as there is no need of login for accessing customer support number because these are the basic things. In this research we have analyze that there are lots of irrelevant information takes place on the e-commerce portal. In this we analyze that at ebay.in the buy now button is only for show we have to click one more time to buy the product. We have analyze that the registration of new user is quite difficult on ebay.in as compared to flipkart.com

## Recommendation:

We have analyzed the result of research and recommend the following:

1. The login option should be more flexible such as Google, Facebook login is acceptable so that customer need not to register.
2. The necessary information should be available at the proper place such as customer support number should be top on the page.
3. The search option needs to be more optimized and quick.
4. There are some links for frequently buying products.



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