

Chapter 57

A Study on Performance of E-Commerce Web Applications

Sreedhar G

Rashtriya Sanskrit Vidyapeetha (Deemed University), India

ABSTRACT

The growth of World Wide Web and technologies has made business functions to be executed fast and easier. E-commerce has provided a cost efficient and effective way of doing business. In this paper the importance of e-commerce web applications and how Internet of Things is related to e-commerce is well discussed. In the end-user perspective, the performance of e-commerce application is mainly connected to the web application design and services provided in the e-commerce website. A grading system is used to evaluate the performance of each e-commerce website.

INTRODUCTION

In the present-day scenario, the World Wide Web (WWW) is an important and popular information search tool. It provides convenient access to almost all kinds of information from education to entertainment. The World Wide Web is the key source of information and it is growing rapidly. The growth of World Wide Web and technologies has made business functions to be executed fast and easier. E-commerce has provided a cost efficient and effective way of doing business. As a large amount of transactions are performed through ecommerce sites and the huge amount of data is stored, valuable knowledge can be obtained by applying the Web Mining techniques. Using Web Mining, companies can understand customer behaviour, improve design of e-commerce site, improve customer services and relationship, and measure the success of marketing efforts and to provide personalized services. The extension in web mining research will lead to success of e-commerce sites and also it will improve the services for customers. In e-commerce websites, you can sell, advertise, and introduce different kinds of services and products in the web.

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BACKGROUND

E-Commerce Web Applications

E-commerce websites have the advantage of reaching a large number of customers regardless of distance and time limitations. The advantage of e-commerce over traditional businesses is the faster speed and the lower expenses for both e-commerce website owners and customers in completing customer transactions and orders. Because of the above advantages of e-commerce over traditional businesses, a lot of industries in different fields such as retailing, banking, medical services, transportation, communication, and education are establishing their business in the web. But creating a successful online business can be a very difficult and costly task if not taking into account e-commerce website design principles, web engineering techniques, and what e-commerce is supposed to do for the online business. Unfortunately, to most companies, web is nothing more than a place where transactions take place. All the e-commerce sites have high traffic. People surf the sites very often but the income is not always very high. So, the web data mining appeared and also nowadays much attention is paid to it. It is very important to apply web data mining to e-commerce in order to gather knowledge about users and rank data accordingly. It is advance successful technology through which information is filtered easier. So, web data mining became a publicly accessible source that gives promising results. With the use of e-commerce through internet, companies find a new and better way to do business. After developing the web site thought companies get benefits, they have to implement Web mining systems to understand their customers' profiles and to identify their own strength and weakness of their E-marketing efforts on the web through continuous improvements. Internet is a gold mine, but only for those companies who realize the importance of Web mining and adopt a Web mining strategy now. Web mining technology has many important roles that should be mentioned. It can automatically find, extract information from the variety web resources. It also develops, improves and enhances the quality and the efficiency of search engines, determines web pages or files, makes classifications (Purandare, 2008). It can also generate large-scale real-time data. Web data mining discovers useful information from the Web hyperlink and page content. It has already changed the face of many business functions in a modern competitive enterprise. It is obviously easier to make right business decisions or understand the information that came from customers with the help of web data mining. It helps e-commerce to understand how to improve its services for special groups of customers and clients, and what tasks to realize. The e-commerce site can increase the exposure of its product pages and so average order size can be increased. Companies can save percentage of its budget per month owing to knowledge that was received from web mining analysis. Web data mining gathers implicit knowledge about clients and instructs e-commerce in every aspect. Then, it extracts valuable and comprehensible information from huge web resources to instruct e-commerce. It also gathers the information in an automated way and builds models used to predict customer purchasing decisions. Web mining is very precious to the company in the fields of understanding customer behaviour, improving customer services and relationship, launching target marketing campaigns, measuring the success of marketing efforts, and so on. Attractiveness of the site depends on its reasonable design of content and organizational structure. Web Mining can provide details of user behaviour, providing web site designers basis of decision making to improve the design of the site (TIAN Meirong, CHEN Xuedong, 2010). E-Commerce generally refers to a new business model, where consumer makes online shopping, online transactions between merchants and online electronic payments and a variety of business activities, trad-

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