Abstract

The data sources on the World Wide Web are increasing extremely. E-commerce is the effective way of selling, advertising and introducing various types of products and services at faster speed on the web. The businesses having physical existence are getting the advantage of selling products and services online and reaching a large number of customers speedily. Web data mining has turned into focus which is a technique to discover interesting and useful information from the web data and helps e-commerce to find better way to do business by providing valuable information. Web data mining helps to understand the information from customers and to improve business decision making. Web data mining is valuable to the company for understanding customer behavior, retaining existing customers, improving customer services and relationship, launching target marketing campaigns, measuring the success of marketing efforts etc. In web data mining, different pattern discovery techniques like association rules, clustering, sequential patterns, classification etc can be applied to find interesting patterns from web data. Using pattern analysis techniques overall patterns in data are highlighted and uninteresting patterns can be filter out.

Web data mining techniques in e-commerce have been described to achieve business intelligence which helps analyst to understand and carry important tasks such as identifying profitable customers, typical click paths that leads to purchase, knowing top or bottom selling products, parts of the page customers most frequently buy from, links customer most frequently clicks, conversation rate for particular department, products purchased by customers from a particular banner ad purchase, identifying banner ads pulling most traffic, conversion rate for each banner ad etc. Intelligent web mining in e-commerce can help to boost the sale, fetch customers to site, and measure the return on investment. In E-commerce Intelligence system, data is collected from various sources such as web servers, commerce servers and enterprise data system and integrated into system to enable business intelligence and analysis.
A method to find customer behavior in e-commerce has been discussed. The traversal path patterns of customers reflect navigation behavior of customers and the result can be useful to improve e-commerce web site design and performance. Considering purchasing behavior with the traversal patterns of customers together can help to find the association between purchasing items in e-commerce and enable customize marketing to bring right products and services to right customers. In e-commerce, web site design is very important for success as customers want flexibility in accessing the site and locating target contents easily. A well designed web site can improve the navigability. If the users are unable to easily find what they are looking for on the website they might go elsewhere and the website traffic will suffer. This could lead to lower sales and advertisement revenues for the website. Using web mining, measuring site navigability by discovering and evaluating user traversal path patterns on site has been described. User access patterns and navigation behavior can be tracked and analyzed from web server log.

The technique of automatic advertising personalization has been discussed which is based on combination of web content and web usage mining. It uses knowledge extracted from web site content and user online ad behavior for advertising personalization. In e-commerce, personalized advertising provides advantages like higher click-through rates, conversion rates and average order values. Thus web advertisements should also be personalized in order to generate good revenue and to increase effectiveness in business. Also customer can be guided to relevant products and flawless personalized shopping experience can be achieved. Using web data mining, return on advertising investment can be measured by computing ad click through rates and purchase conversations.