Navigational behavior

Source: Webserver logs

Description :

Each hit against the server, corresponding to an HTTP request, forms a single entry in the server access logs.

Each log receive fields identifying the time and date of the request, the IP address of the client, the resource requested, possible parameters used in invoking a Web application, status of the request, HTTP method used, the user agent (browser and operating system type and version), the referring Web resource,and, if available, client-side cookies which uniquely identify a repeated visitor

Goal :

Optimize navigation throughout the website / Identify navigational issues

Example analysis outcome:

58% of clients left the site after four or fewer page references.

Actions :

Ensure the most important information is contained within 4 pages from the entry point

Data modeling:

"Pageview" can be viewed as a collection of Web objects or resources representing a specific “user event”, in the e-commerce world they may correspond to various product oriented events, such as product views, registration, shopping cart changes, purchases, etc.

Association and Correlation Analysis

Source: Webserver logs

Description :

Predict the association and correlation among a set of items where the presence of one set of items in a transaction implies a certain degree of confidence the presence of other items.

Goal :

Meaningful recommended products suggestions based on identified navigational patterns.

Example analysis outcome:

35% of clients, who accessed the web page with URL /company/products/bread.html, also accessed /company/products/milk.htm.

Actions :

Ensure the suggestions of other related items are meaningful to the customers

Data modeling:

Frequent itemsets are generated by the analysis of the pageviews appearing in the preprocessed log depending on an already specified minimum support threshold. Association rules satisfying such a minimum confidence treshold can be then generated from the frequent itemsets.

Customer segmentation

Source: Webserver logs + Account information

Description :

It refers to the process of using customer data to enable a clustering of customers with shared attributes.

Goal :

Higher conversion rates, long-term revenue from customer retention, better insight into customer base

Example analysis outcome:

50% of clients who applied discover platinum card in /discovercard/customerService/newcard, were in the 25-30 age group, with annual income between $40,000 –50,000.

Actions :

Communicate with the customer in a customized way in order to let them feel their needs and interests are being specifically addressed.

Data modeling:

User profile information models may include demographic information about registered users, user ratings on various objects such as products or movies,

past purchases or visit histories of users, as well as other explicit or implicit representations of users' interests. Some of this data can be captured anonymously as long as it is possible to distinguish between different users.

Purchase and affinity analysis

Source: Webserver logs + Historical data

Description :

It's based on the assumption that you can predict future customer behavior by past performance, including purchases and preferences.

Goal :

Meaningful recommended products suggestions based on identified purchase patterns.

Example analysis outcome:

50% of client who bought items in /pcworld/computers/, also placed an order online in /pcworld/accessories/ within 15 days

Actions :

Ensure the suggestions coming from identified sequential patterns of purchase are presented to the customers

Data modeling:

Identify top products (analyzing sales) and combine them with Customer Segmentation in order to provide automatic recommendations that best suit customer profiles.

Customer Actions Profiling

Source: Webserver logs + Historical data

Description :

The analysis aims to map all of the possible actions performed by a customer on the website such as purchases, newsletter subscriptions, sign-ups, taking polls or like/share via social networks, etc into reward points that would modify its experience on the website.

Goal :

Increase customer loyalty through a reward system

Example analysis outcome:

Very few newsletter inscription may indicate a lack of interest in it

Actions :

Incentive and reward with points customer that are not subscribed to the newsletter but are browsing the website

Data modeling:

Identify a set of actions and their usage threshold levels and trigger the assignation of reward points dynamically to the customer in order to incentivize them.

Adaptive Catalog Pricing

Source: Webserver logs + Historical data

Description :

It’s purpose is to adapt the price of the items sold as you uncover customer likeliness to purchase at that specific price.

Goal :

Competitive product pricing adapted to the customer sensitivity

Example analysis outcome:

50% of clients more took advantage of a promotion when the discount amount was above the 20%

Actions :

Ensure proper merchandise planning

Data modeling:

Analyse sales behavior under certain catalog pricing scenarios to define a proper pricing which matches in-store expectations and the external market

Automatic Stock Balancing

Source: Webserver logs + Historical data

Description :

Forecast the right amount of stock at any time analyzing the sales behavior

Goal :

Balanced stock management

Example analysis outcome:

Purchases of a specific product increased lately

Actions :

Stock refurbishing for that specific item

Data modeling:

Analyse sales behavior and modify the stock entity accordingly to the market demand