BroadVision®

White Paper

Using Proven Personalization Techniques to Drive Measurable and Profitable Online Behavior

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Creating Strategic Advantage

Creating and retaining a competitive advantage is crucial. By capitalizing on its relationship with each of its customers, an organization can differentiate itself in the mind of each person and achieve unprecedented levels of loyalty. Experts agree that personalization is an ideal way to achieve this level of differentiation on the web. Jupiter Research estimates that 35% of organizations they recently surveyed will invest in personalization strategies during 2004.[1]

"Personalization is first and foremost a business strategy, and is an attempt to counter-balance the anonymity that typically characterizes interactions between consumers and large businesses, especially over the Internet" says a recent DataMonitor report on global personalization technologies. Personalization strategies are designed to influence the five most important user behaviors on the web site:

- Repeat visits and intervals between visits
- Registration rates and log-on rates
- Identification of user communities
- Conversion rate and cart abandonment
- Utilization rates

Value, in turn, is generated and can be measured by key operating metrics including:

- The types of transactions and interactions that users perform on the site
- The frequency with which users perform these transactions and interactions
- The number of users who perform these transactions and interactions
- The types of users who perform these transactions and interactions
- The rate of user retention and site loyalty
- The level of user/customer satisfaction
- The degree of web channel loyalty

Some analysts suggest that these metrics are driven more by usability than personalization. This rationale, however, implies that every visitor to a web site wants the same content, information, features and applications. Such an assumption ignores the experience of countless web sites that facilitate multiple types of user interactions and transactions.

How then should an organization think about personalizing its web site? "We recommend personalizing to segments of the population that have been fine tuned through the use of business intelligence and data warehousing tools," says Gene Alvarez, vice president of e-business strategies at META Group. "We also recommend that organizations blend various personalization techniques to match the business model they want to create and use continuous process improvement, similar to what we've seen in the manufacturing world, to refine the model. Web services and service-oriented architectures will play a role in this continuous process improvement going forward."

[1] "Beyond the Personalization Myth," published Sep 30, 2003 by Matthew Berk, Jupiter Research.

Personalization Strategies: Pushing and Pulling Users to Influence Behavior

There are two key personalization strategies. The push approach proactively recommends information and access to applications and features to the user. The pull approach relies on the user to request information, applications and features such as “personal lists and bookmarks” and “alerts.” If you only use push strategies, you run the risk of inaccurate targeting. On the other hand, relying only on pull strategies will place undue burden on your visitors and may convince them to avoid your site. To create competitive advantage, you must enlist both strategies and the techniques that enable them.

Personalization Techniques

There are many personalization techniques – we have described four of the most useful below. By effectively combining multiple techniques, organizations can impact key operating metrics. Most importantly, as techniques are deployed, care should be given to gathering only relevant information from users and protecting the privacy of all user data. Categorizing content and offers by context allows users to benefit from the relevancy of the personalized offers targeted to them, while organization benefit from the time and cost savings of a one-to-several approach.

Qualifier Matching

Qualifier matching is a crucial filtering strategy in portal and e-commerce environments. This technique allows companies to target delivery of content, access to applications, and navigation paths to individual visitors and groups of visitors via qualifiers that filter and match appropriate content and capabilities with each visitor. Each visitor gains a personalized view of the site, with the paths and content that are relevant to his specific interests and needs, automatically displayed.

Qualifier matching can be used to support either push or pull strategies, with either the organization or the visitor(s) defining the qualifiers, respectively. A typical push strategy in the corporate intranet environment is filtering based on employees’ job level. Users who qualify for access to certain management tools and information will automatically gain access to those tools and information, whereas users who do not qualify will not.

Qualifier matching offers significant benefits. The user experience improves dramatically, making it easier and faster for visitors to find useful and relevant information. The organization earns mind share and loyalty among customers. Because the organization must no longer invest in writing and maintaining huge numbers of complicated rule sets, significant costs are controlled.

Although qualifier matching is extremely valuable in driving overall behavior on a web site, it should not be used for versatile personalization such as online campaigning. Rules-based matching is best for that type of effort.

Rules-Based Matching

Rules-based matching is a powerful technique that relies on IF/THEN, AND/OR statements to tell the system to take certain actions if the site visitor or the situation meets certain conditions. Taking a matching action then results in the display of content or granting access to certain capabilities on the site. Because business managers can create and modify business rules on their own without the involvement of IT staff, rules-based matching gives the organization an extremely high level of agility and accuracy in running online campaigns or in executing marketing strategies. Indeed, rules-based matching is the most versatile personalization technique and provides the greatest amount of control for the business manager. Business rules can be used to target content, products, services, capabilities, and features to a huge range of criteria and user attributes. Specifically, content can be matched to the following criteria:

User Identity

Based on what the system knows about the user, each user is identified according to one of three categories: individuals, communities, and dynamic profiling. This approach requires that a profile of each user be stored in a database so that the business rules can match content to one or more user profile attributes.

User Activity

User behavior is observed and stored in the session profile. This approach uses the session profile to recommend content and capabilities, to launch cross-selling and up-selling activities, and to target anonymous users.

User Area

User activity is monitored by site area. A context of the user's activities is created to increase click-through rates on advertisements and incentives.

User Time

This rule can be used to support a wide variety of strategies, including sales incentives that are tied to a deadline or time of day, or targeting the interval between two subsequent site visits by the same user. For example, if the user has not visited the site for more than a month, the site will display a "what is new" message at the next visit.

Notifications

Visitor notifications, also known as community messages, are messages sent to communities of registered visitors. The visitor can retrieve the message from an inbox on the site or from one of his own devices such as a fax machine or a pager. The business manager decides which community will receive each message. Each message can be personalized for each visitor and is generated by a script that runs at a scheduled time. The schedules can be run once or periodically.

Targeted Email

Targeted email can be created in plain text and HTML format and sent according to mailing schedules (hourly, daily, weekly or monthly). Plain text email messages can be personalized with visitor profile information, such as first and last name or product ownership. HTML email messages can be further personalized with offers created during the campaign.

Combining Strategy with Technique

The personalization strategies and techniques that should be used to create the impact necessary to influence site user behavior differ according to which metric is targeted. We will examine each metric in detail and discuss how each should be linked to the appropriate push/pull strategy to create the greatest value for the user and your organization.

Repeat Visits and Intervals Between Visits

Repeat visits are instrumental in creating loyalty to both your organization and the online channel. (Convincing users to rely on your online channel rather than the call center should result in a significant cost savings.) Although personalization will have only a limited effect on overall traffic, repeat visit rates can be influenced significantly. The shorter the interval between two visits, the greater the impact of the targeting and personalization.

How can organizations use push and pull techniques to drive repeat visits and shorter intervals between site visits? The most effective push technique is targeted email to registered users. If the user is not yet registered, you can request him to register for an email newsletter where he would indicate his topics of interest. The most effective pull technique is a user-set alert delivered by email. We recommend an opt-in mechanism that allows the user to indicate which content she wants to receive updates on. The alert schedule will then send an email to her whenever new content becomes available.

Consider a combination of push and pull if visitors are using personalized functionality such as personal shopping lists. Thus, when certain users are not accessing their shopping lists often enough, you can send a notification to raise their awareness. This approach is often combined with an incentive.

Registration Rates and Log-On Rates

Because users will register their profile if they see value in doing so, you can illustrate value by providing certain capabilities or access that are available only if they register. For example, direct users to areas of the site or self-service features that require personalization for future visits.

How should you use push and pull techniques to ensure user registration and high log-on rates? The best push technique is to use business rules for pushing community messages and testimonials from other users who have already registered and find the site valuable. The most effective pull technique, meanwhile, is personalized functionality such as personal lists or stored bookmarks. Allow your users to set alerts. They will understand that the site must be able to remember them.

Identification of User Communities

A community is a segment of users with identical needs and/or requirements. Identifying a user community is key since it is usually the first step to convincing people to register and providing immediate relevance through personalized navigation. Community identification is also crucial in driving the use of features and content, and self-service applications. A best practice is to provide relevance and value as early in the on-site experience as possible.

The best way to identify communities is through self-identification where users choose a statement or a graphic that best represents them. A good example of this pull approach is the strategy where insurance companies group users according to life stage such as “young couple.” In that case, users would be presented with images of different life stages such as “young couple” and asked to choose the image that best describes them. The push version of this strategy is to track the user’s first clicks on the site and then infer the community to which that user belongs.

Which technique is deployed usually depends on your industry and your customers. There are certain environments where users are less likely to self-identify into a specific user community, such as mass B2C retail. On those sites, it would be most important to find out why users are visiting. For example, are they there to browse products, to compare different products, or make a purchase?

Conversion Rate and Cart Abandonment

Conversion rate, or the rate at which visitors “convert” from being a one-time visitor to being a customer, is usually a push mechanism. Companies calculate the conversion rate by dividing the number of confirmed orders by the number of site visits or unique visitors. The conversion rate is a key measurement of success for commerce environments.

Cart abandonment (the rate at which visitors abandon their online shopping) strongly affects conversion rates. The most common strategy is to use business rules to target a variety of user characteristics and behavior such as product preferences and earlier purchases. Cart abandonment is often reduced by allowing users to store their intended purchases in a shopping list or by making shopping carts persistent (which can later be targeted at a subsequent visit, if it is close enough to the earlier visit. Launching incentives via business rules that target the contents of the shopping cart can also reduce cart abandonment.

Utilization Rates

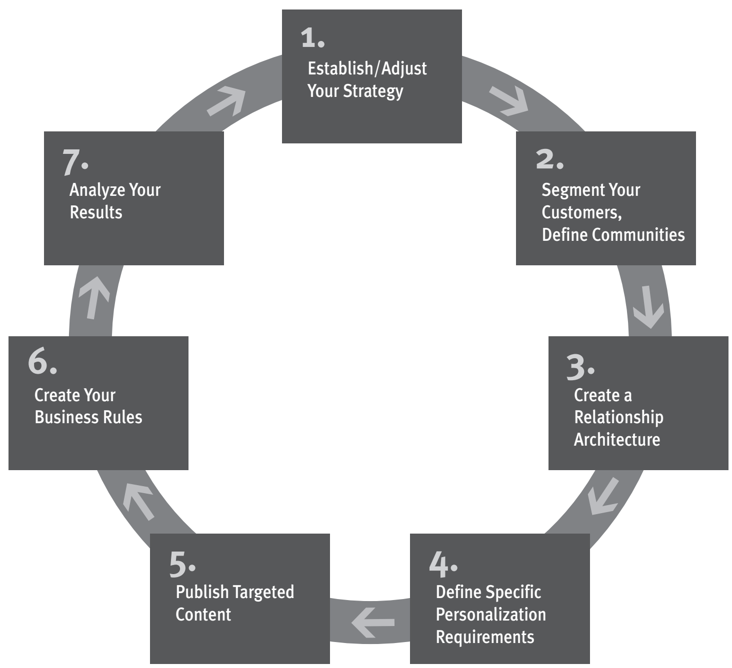
This is perhaps the most important metric for any web site and will ultimately define the level of value derived from the site. Developing and maintaining relevant and appealing content, features and applications requires resources. The resulting level of utilization defines your return on investment (ROI).

Utilization can be influenced in many ways and usually involves the use of multiple push and pull techniques. Personal home pages, for example, play a critical role in driving utilization. The personal home page is typically the place where push and pull techniques are combined to ensure that users need a minimal number of clicks to access relevant content, features and self-service applications. It also helps companies avoid having to personalize the entire web site.

Preparing for the Personalization Planning Cycle

As noted earlier, personalization is an iterative process that involves an ongoing cycle of creating strategies, implementing strategies and techniques, measuring success, making any necessary adjustments, and then re-strategizing. Your personalization planning team, which ideally would include a project manager, web site designers, product marketing managers, merchandising managers, business unit managers, customer account reps, customer services agents, and business process owners, must be prepared to support the process on an on-going basis. The diagram below and the discussion that follows examine this cycle in detail.

PERSONALIZATION PLANNING CYCLE



Understanding Your Customer is an Ongoing Process

Personalization is not a project that is implemented once and is 'done'. Personalization is an ongoing, iterative process, by which organizations plan how to influence site users to achieve measurable and profitable online behavior.

Strategy Development

Start by having a very clear understanding about what you want to accomplish through your web channel. Consider the measurable impact you wish to create in three important business areas:

- Marketing (brand image, awareness and loyalty)
- Sales (transaction volume and value)
- Support (proactive vs. reactive)

Quantify your objectives and decide what you will measure, and how, to understand the business performance of your site. Plan to measure not only high-level business performance, but also site utilization metrics. It will be important to assign business objectives to specific user communities to determine which communities are most relevant to your overall goals. For example, for some user segments it will be more important to drive repeat business, while for others the most important goal will be longer time online.

Customer Segmentation and Community Definition

The first principle of building accountable customer segments is understanding what makes your customers unique, how their needs are different and what impact each group is intended to have on your business objectives. If your organization has a data warehouse and analytical software, you can group your customers into segments quickly and accurately. If you don't have the resources to do this kind of analysis, however, you can probably learn enough about your customers from your marketing team to at least get started.

Once you have defined segments, you have three ways of grouping them into communities: based on information existing in your customer database, based on observed customer behavior on the site, or based on direct questioning. Once you have defined your communities, organizing them is a matter of grouping them into high-level communities and sub-communities. Sub-communities will be more numerous and will help to filter and refine information even more to meet your customers' need.

Grouping your segments into communities offers several benefits. You show your customers that you understand their needs by providing immediate, relevant content and features. You allow non-registered, anonymous customers to provide information about themselves quickly and easily. Segmentation also facilitates the use of business rules, the monitoring and reporting of customer activity, and the development of a one-to-one dialogue with non-registered visitors.

Creating a Relationship Architecture

The next step in treating different users differently is developing a Relationship Architecture (RA). This process involves deciding which combinations of products, content, and features you will offer each community.

Defining Specific Personalization Requirements

There are four steps to mapping out your personalization requirements.

1. Identify which web template pages will be personalized.
2. Choose a targeting strategy (using one of the personalization techniques) for each region of the page.
3. Develop your marketing and communications campaigns.
4. Validate your profile elements.

The key is to mix and match personalization strategies in a logical way that will simulate a customer service or sales representative and simplify management of the site. Companies typically choose the following combinations: Personal Advisor page (self-selection into a community); Advisor Results page (one-to-community marketing); Personal Home page (B-to-C commerce); Shopping Cart page (cross-sell); Account Information page (one-to-one and moment-to-moment marketing); and Business Portal page (targeted messages, matching agent, and one-to-one marketing).

Publishing Targeted Content

After you have decided which web template pages will be personalized, review the content on your site and decide whether any additional content is needed. It is extremely important to determine the necessary amount and format of content early in the planning process. You should also categorize your content and assign content attributes that will be used to describe the content when tagging. If you plan to use third-party content (e.g., news feed from a newspaper), decide what attributes come with the news feed. To develop an effective editorial production process, issues such as who will review, edit, and publish content (e.g., product managers, writers, the web team, etc.), and the easiest ways for them to introduce new content into the system should be resolved and communicated to everyone involved in the process.

Creating Business Rules

Once your personalization strategies have been analyzed and the content is in the database, you can write business rules to execute your campaigns. Embedding rules in the web template pages using Java may be the most logical approach. For example, if you plan to always cross-sell some items, it may be best to hard-code the script rather than writing a business rule for each product. Before the site goes live, make sure you run a pilot test to ensure that the business rules are executing properly.

Results Analysis

After your site has been live for several months, evaluate the effectiveness of your site by examining use and performance. (Additional business reporting and analysis may be necessary to understand the full impact of your web site on your organization's overall business.) Key measurements include:

- How many unique visitors visited the site? From where? How many were converted into registered users?
- How often did registered users visit the site? Did this differ by community?
- What was the overall most popular content?
- What was the most popular content in each community?
- What were the total sales generated by the site?
- How helpful were my campaigns in generating these sales?
- Did the cross-sells increase the average order size? If so, by how much?
- Did users click through on the banner ads? If so, did they buy or sign-up for the suggested product or service?
- What percentage of shopping carts was abandoned?
- Did the web site help increase sales from other channels?
- Did the web site help reduce costs? For example, did customers stop calling the call center and begin using self-service on the site instead?
- Did customer retention increase?
- Did your organization win new customers via the web site?

Adjusting Strategies

Once you have thoroughly analyzed the effectiveness of your web site, determine what adjustments need to be made to optimize personalization. There are several key areas to examine.

- What was the amount of traffic from each online advertising site? Did you receive less traffic than anticipated?
- If you didn't have enough visitors registering on your site, perhaps the registration process is too lengthy or invasive. Consider offering an incentive to register.
- If the site had many abandoned shopping carts, it may need more moment-to-moment incentives to close the sale.
- If overall sales were too low, perhaps your promotional items should be more targeted and highlighted as specials on the home page.

Summary

In the online world, personalization is the most effective way to create competitive advantage. By influencing behavior on your web site so that your users become frequent visitors, register their personal preferences, tell you which communities they identify with, and grow to rely on your site's content and services, you will create a loyal customer base at a lower cost.

In order to develop and implement an effective personalization strategy that meets your organization's business objectives, however, you must understand the advantages and disadvantages of push and pull strategies and then learn how to match the appropriate techniques (qualifier matching, rules-based matching, notifications, and targeted email) with the right strategy. You must strike a balance between what you hope to achieve and the additional resources you're willing to invest. Although personalization requires planning and some investment, the benefits are compelling: greater customer loyalty, higher conversion rates, reduced costs, a boost in productivity and operational efficiency, and a more agile and profitable organization.

A Brief History of Personalization

The Internet was originally a communications link for scientists, government agencies, and researchers. At that point, web sites were static and consisted of HTML pages linked together. As corporations began going online and the amount of content grew, sites became more difficult and expensive to manage. Personalization, which relies on dynamic web technology to deliver freshly-generated, personally-relevant content, first appeared in 1996. By early 1999, the general public was swept up in the excitement of the web. Although some web sites had already begun adding personalization features such as shopping lists and reminders, most still treated all of their visitors in the same way.

With the advent of personalized sites where business rules and matching agents simulated interactions between customers and organization agents, that all changed. Just as real-life customer service and sales representatives automatically filter information that is relevant to the customer, make recommendations, and alert the customer about opportunities, personalization techniques know the customer, remember the customer, and adjust their personal memory of the customer according to the customer's changing needs. Because users' experiences with a personalized site are ultimately more satisfying, they are more likely to become loyal customers—which explains why so many organizations are now investing in personalization.

BroadVision is a global provider of personalized self-service web applications. Our integrated suite of process, commerce, portal, and content solutions helps customers rapidly increase revenues and reduce costs. Over 1,000 organizations—including Wal-Mart, Vodafone, Cardinal Health, Hewlett-Packard, Toyota, Japan Airlines and the U.S. Air Force—serving nearly 60 million registered users, rely on BroadVision's open solutions to power and personalize their mission-critical web initiatives.

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