RESPECT the SHOPPER.

The Path to Personalisation for e-Commerce

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Respect the Shopper:

The Path to Personalisation for e-Commerce

Summary

Personalisation is a top action item for retailers today because of its significant potential in terms of business value. Today, online retailers have multiple options when it comes to choosing a path to add personalisation to their customers' online shopping experiences. This paper investigates various personalisation technologies and vendor categories available to online retailers.

On the high street, consumers flow through a store and savvy retailers place product displays and promotions in strategic locations to capture the interest of passers-by. Online merchants have a similar opportunity to capitalise on the use of "virtual displays" to creatively push promotions directly to consumers. Truly savvy merchants look for ways to personalise the shopping experience so that each online promotion or product placement is relevant to the wants and desires of the individual consumer.

In the early days of e-commerce, personalisation was almost entirely based on the wisdom of the crowd, employing just a few simple collaborative filtering algorithms ("customers who purchased X also purchased Y", "Top Sellers", etc.). But, just as online consumers have grown more sophisticated, so have personalisation solutions in their ability to better tailor a consumer's experience. Rather than merely reminding consumers of other users' past behaviour, personalisation solutions can now recommend items based on a much wider array of data. In addition to the wisdom of the crowd, solutions can consider the behaviour of the individual and relationships between products or groups of products to predict what items consumers might find compelling.

Today, online retailers have multiple options when it comes to choosing a path to add personalisation to their customers' online shopping experiences. "Personalisation" is a broad category with solutions that vary greatly in their approaches. In its simplest form, personalisation can involve shoppers creating personal profiles that outline the kinds of features or information they want to see. Other common personalisation methods—some simple and others more complex—include:

- **Versioning** - *displaying different versions of pages based on segmented customers*
- **Product recommendations –** *targeted merchandising based on anonymous data (implicit, explicit or both) gathered about a shopper.*
- **Interactive filtering solutions** – *displaying specific information based on a customer's directive*

A successful personalisation initiative can generate millions of pounds in attributable sales, so choosing the right path should be a deliberate, strategic effort. This paper is designed to help online retailers consider the challenges before them and offer advice on how to pick a path to personalisation that not only increases short-term revenue, but also strengthens relationships with consumers to increase their lifetime value.

Personalisation Today

Forrester Research identified Web analytics and product recommendations/ personalisation as the two most highly prioritized technology investments for retailers in 2010.[1]

Deloitte also identified product recommendations as one of the key emerging e-commerce capability groups across the top 80 online retailers as they look to increase their average order size.[2]

Challenges of Customer Engagement

Retailers face numerous challenges as they strive to engage shoppers online—in particular, how to meet user expectations and achieve merchandiser goals while maintaining a competitive edge. Balancing all three objectives is difficult in a world where the preferences of site visitors are largely unknown.

Meeting User Expectations

Each visitor arrives at a retail site with an agenda. Whether they clicked through a link from a search engine, were directed from an email campaign or simply came to browse before making a purchase in-store, visitors arrive with a particular frame of reference that can be leveraged by the retailer to immediately begin personalising their site experience. For example, consumers' keywords on a search engine are available to retailers and can be used to inform the display of relevant content when consumers click through search results to a retailer's site. Visitors clicking through from email campaigns can arrive on landing pages specifically designed for the campaigns. These can also be populated with relevant content based on a shopper's past purchase history and behaviour. With the growth of e-commerce, personalisation in various forms has steadily increased and consumers now expect tools that help them to find what they seek quickly to complete their agenda. In particular, high quality personalised recommendations have become an effective means of navigating a retail site, on a par with its search and browse features. Merchants who meet users' expectations with regard to these tools gain favour, while those who fall short will see higher rates of abandonment as consumers jump to competitor sites that better enable their shopping experience.

Achieving Merchandiser Goals

A common breakdown in the merchant-customer relationship occurs when merchants confuse shoppers by substituting their own goals for those of the consumer. For example, an online retailer with excess inventory of an item may use prime online "real estate" across a site to move it as quickly as possible. For consumers coming to the site looking for one category of products, being immediately presented items from another category—completely unrelated to their frame of reference—can be disorientating. A personalisation solution can solve this conflict of interest by bringing the two sets of goals together. For example, promotional offers can focus on the specific customers that are predisposed to finding them relevant, thus increasing merchandisers' desired KPIs and driving sales without sacrificing the shopper experience.

Maintaining Competitive Advantage

Online retailers are highly competitive—trying to outpace rivals in page views, average order value, and sales volume. Personalisation offers retailers the opportunity to engage with consumers on a deeper level, keeping them onsite to complete transactions instead of jumping to a competitor's site. The use of personalisation on landing pages for SEO or search engine marketing campaigns exemplifies this level of active engagement. When a shopper lands on such a page, a personalisation system can show them not only the specific product they were searching for, but a range of alternatives and accessories they might not otherwise have been aware of. This not only reduces bounce rate, but also drives longer sessions and incremental sales, thereby reinforcing the retailer's competitive advantage with each individual sale.

The Potential of Personalisation

Due to a lack of insight and tools to immediately respond to customer behaviours, retailers have found it difficult to achieve the three goals listed above simultaneously. The inability to craft customised responses forces online

Rate of Adoption

In 2006, Forrester Research found that 16% of online retailers were using product recommendations—though only implemented on the product detail page.[3] By 2009, usage skyrocketed with fifty-nine percent of retailers leveraging product recommendations or planning to implement/enhance them in the coming year.[4]

retailers to adopt generalised marketing campaigns that appeal to a broad audience. Personalisation solutions offer a promising alternative to this hit-or-miss approach as retailers can not only access new data about their customers, but also respond to behaviour in real-time. Even the ability to respond to anonymous browsers (those with no recorded purchase history or behavioural information) is no longer out of reach; intent can be detected through their real-time behaviour—which items are viewed and/or the paths they take through a site. However, a personalisation solution that is built or executed poorly can result in not just confused consumers, but lost revenue. For example, when a solution neglects to consider context or is not fine-tuned to broader category attributes, inappropriate products may be paired. An accidental, inappropriate pairing between categories—e.g. adult content recommended on a children's product page—can defeat a whole project. Personalisation, when done right, meets all the challenges noted above by correctly identifying visitors and targeting them with content that is more likely to engage them and to spur a purchase.

Personalisation Is Not A Tick-Box

Personalisation is a top action item for retailers because of its significant potential in terms of adding value to the business. However, it is not an addition that should be taken lightly. The most effective systems can collect enormous amounts of clickstream data and apply numerous types of algorithms in real-time to create relevant product suggestions via standard recommendations modules while also customising other aspects of a shopper's experience. This type of system demands constant administration and a high level of technological complexity.

Solution Administration

Complex solutions can often be difficult to maintain. Companies like Amazon.com have hundreds of developers who build, maintain, and operate its personalisation capabilities—a level of commitment few retailers are willing or able to engage in. The investment required for more complex systems may even exceed that of many retailers that use teams of manual merchandisers who pour through reams of data to determine which products should appear together, how to rank them, and how to segment visitors in the hopes of hitting them with messages that matter.

In both cases, the administrative costs of personalisation and even manual segmentation become prohibitive for all but the largest online retailers. Even for these retailers, the logistics of administering personalisation can overwhelm their ability to effectively service their customers.

Solid Technology

Personalisation is not for the faint of heart. Failure to take into account the many variables that affect the shopping experience can lead to underperforming personalisation features, or, worse, recommendations for products that are completely inappropriate—resulting in customer complaints and attrition.

In order to ensure quality, it is critical that a personalisation system supports rules that allow merchandisers to block certain products that may make sense in the mathematical "guts" of the system, but not in the marketplace. For example, someone shopping for U-rated animated films for their children is not likely to appreciate a recommendation for films with an 18 certificate, even if they, or other customers, commonly buy both. The system needs to construct "guardrails" that prevent these types of scenarios.

In addition to getting the data and algorithms right, it is critical that a personalisation solution is built on top of a robust, scalable platform. This platform needs to be always available and able to handle traffic spikes, such as those that occur during sales or holiday shopping seasons. This typically means a distributed, cloud-based system with guaranteed redundancy, geographic distribution, and high security.

Personalisation Landscape: What Are My Options?

Retailer choices for personalisation fall into three distinct categories:

- Rent the services from an existing platform vendor who offers some kind of personalisation capability
- Build it yourself
- Buy a best-of-breed solution

Each choice builds upon a common set of technologies with varying abilities to support them.

A Quick Look at Technology

Before we dive into these options, it helps to see how personalisation has changed since its inception online. The earliest technologies behind personalisation included:

- *User profiling*: using data collected from a number of different sites, which could result in the creation a personalized Web page before the user has been formally identified. This kind of personalisation typically requires actual user feedback, although tie-ins with social networks like Facebook can aid the collection of data.
- *Data analysis,* used to predict likely future interactions. This is most commonly done through analytics tools that provide a historical perspective to personalisation, but fail to address current consumer behaviour and suffer from an inability to detect micro-trends.

Although the approaches above provided value, newer and more intelligent technology has broadened the range of options.

- *Collaborative Filtering*. This approach offers recommendations to users based on the activity of users with similar histories. Most Internet shoppers have seen this at work in recommendations delivered in the form of "people who bought X also bought Y". Amazon popularised several variants of this approach in the late '90s.
- *Recent Behaviour Pattern Matching*. This approach analyses real-time user behaviour in order to choose products to recommend. The premise here is that the manner in which people browse through a site contains clues as to the products they are most likely to eventually purchase. The system uses the clues to identify these products and then places them quickly in front of the user.
- *Visual Similarity*. This strategy uses the similarities of digital images to recommend similar products. Such an approach has the potential for quickly generating new lists of products that cut across traditional categories, such as a list of wooden products across Kitchen and Living Room categories.
- *Neural Network Modeling*. In contrast to the three approaches above, which are built to use specific properties of specific kinds of data—such as page views, purchase history, and so on—neural networks are a more general approach designed to learn patterns in any kind of data. The downside of this approach is that it is difficult, if not impossible, to explain why any given recommendation was made.

While each method of personalisation has the potential to enhance the shopping experience, the most successful personalisation solutions:

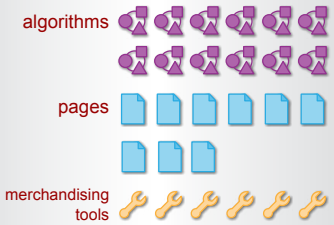
- Employ a variety of recommendation strategies
- Choose the right strategy, at the right time, in the right context
- Continually improve by incorporating dynamic user and product data

Innovation

A committed personalisation partner who is constantly developing new ways to engage the customer and boost conversion.

Intelligent Personalisation

15+ Algorithms in uniquely-optimized placements on many pages. Numerous Merchandising Tools.

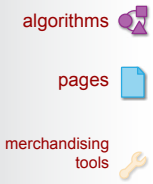


Add-On

3-5 Algorithms, still hard-coded to specific pages. Some basic merchandising tools.

In-House

1-2 Algorithms, hard-coded on 1-2 pages.



- Rebuild models many times per day to capture new trends and incorporate changes in inventory data

Now, let's take another look at the three basic options mentioned above.

"Add-on" Options

For retailers looking to create a personalised experience for their customers, using an add-on solution from either an analytics vendor or e-commerce platform provider may seem like the simplest and most convenient option. The platform is already installed and licensing the personalisation feature may be all that is needed. However, while these providers excel at their core competency—be it delivery of content or analysis—they are most likely to provide only basic personalisation capabilities that do not take advantage of all the available technology (listed in the last section) in an integrated fashion. It is important to note that personalisation "add-ons" are frequently acquired technologies and thus require additional installation. Another consideration is the level of support and flexibility that accompanies a standard add-on solution. For personalisation tools, the ongoing investment made by a dedicated client support team is essential in a) customising the system so that it achieves the best performance possible and b) meeting the specific set of criteria that a merchant might be looking for.

In-House Development

"We know our customers better than anyone else." Retailers often say this and it is usually true … in a collective sense. However, when we talk about personalisation, we are talking about delivering the most relevant product or content recommendations to individuals. No matter how knowledgeable large online retailers are about their customer segments, it is impossible for them to know everything about each shopper or to know anything about first-time visitors. This limits the effectiveness of manual merchandising and forces merchants to consider technology solutions.

Merchants who turn to technology to automate the process may be tempted to build their own personalisation solutions. By all appearances this would allow them to take advantage of their manual merchandising teams while giving them the ability to identify individuals on site. A quick reminder: it takes dozens of developers with expertise in both application development and the science of algorithms to build a first-generation personalisation engine. Then, it takes years of learning to optimise the engine to current market capabilities. Few retailers can afford the years of development and learning that is required to become competitive online.

Personalisation Vendors

With their focused investment in development and experience in providing an optimised solution, personalisation vendors offer retailers the best choice to reach consumers with relevant product recommendations and content. However, even within the personalisation provider space, there are clear differentiators between vendors that should guide retailers in their decision making.

Like platform vendors, many personalisation solutions are adept at handling one or two of the technologies mentioned earlier in this document, but only a few handle all the technologies. Even fewer allow those technologies to compete and select the best-performing technology to power personalisation strategies. Other key considerations regarding vendor solutions include:

- *Infrastructure*. Multiple data centres located across geographies provide faster response times and superior uptime.
- *Frequent updates*. Few personalisation vendors rebuild models and data every few hours; most update nightly. Nightly updates fail to capture micro-trends that can occur throughout the day.
- *Segmentation*. Marketing teams run email campaigns and online promotions and need the ability to

target their messages. A limited number of personalisation vendors move beyond recommendations to include dynamic targeting and segmentation.

- *Transparency*. A key factor in deploying any personalisation solution is the ability to understand the decisions made on behalf of the retailer. Lack of transparency often leads to distrust and a feeling that in-house development may be a preferable path to personalisation.

Picking a Path to Personalisation

The following are key considerations to help guide your thinking as you decide how to personalize your online consumer shopping experience. While not an exhaustive list, it is broadly applicable to most retailers.

- **Resources**. Before you choose a path, understand the resources you can devote to your personalisation project. If you cannot field a team of developers and science/analytics professionals to build and maintain your own systems, consider a vendor. If you are a large retailer, you should also consider whether you need a vendor who has expertise in retail and can act as a full-service partner.
- **Reporting**. Reporting should allow a high-level view of shopper activity and an ability to drill down to activity at the category or even the product/item level. This enables the kind of transparency necessary to gain trust in the decision of any personalisation engine.
- **Algorithms**. Changes in the algorithms used to determine what product or content recommendations will be displayed should be automated, not manual. Best practices allow algorithms to compete with one another so the best-performing one will always be used. To maintain transparency, whatever algorithm is used should be open to inspection by the retailer, and not concealed behind a "black box" approach.
- **Expertise**. Regardless of the path you choose, ensure that the solution provider demonstrates expertise in dealing with online retailers. Algorithms are finely tuned to industry needs, and experience within retail ensures you are leveraging the technology to your specific business needs and objectives.
- **Client services**. No two retailers are alike. A personalisation vendor should not only have expertise in retail, but also have a client services team that similarly possesses an expert awareness of the needs within your industry, and the know-how to implement best practices for success.
- **Infrastructure**. Whether you build your own or choose a vendor solution, ensure that you have adequate infrastructure to meet the performance expectations of consumers. This includes regional data centres, the use of caching servers (e.g., Akamai) for static content, and implementation of back-end systems that can process peak loads and frequent model rebuilds without compromising response time.
- **Vision**. Personalisation is often reduced to "recommendations." Consumer behaviour can be applied to targeting for online promotions, segmentation of email campaigns, and even site monetisation strategies. Consider the ways you might use personalisation on your site and choose a solution that will help meet your goals both today and in the future.

Conclusion

Picking the wrong path to implement personalisation is costly in both time and resources. By considering all these topics as you choose your path to personalisation, you will better engage your customers and increase revenues as a result. While it may be tempting to build your own personalisation solution or adopt a “single-vendor” strategy and simply license basic personalisation functionality from a platform vendor, choosing a personalisation vendor carefully will provide superior results and enable you to grow successfully with your changing needs.

Endnotes

1 Just more than half of Forrester respondents — 56% — plan to invest in Web analytics in 2010 to support their e-commerce initiatives in 2010. These technology investments are followed most closely by product recommendations or personalisation tools at 55%. Personalisation is trailed by search, alternative payments and interactive support. "Trends 2010: eBusiness Optimism Rises From 2009 eBusiness Budgets Rise Slightly; Investments In Technology And Tools Rise by Carrie Johnson, Elizabeth Davis with Kate van Geldern.

2 Deloitte's Annual Online Retail Business Capability Assessment

3 "The State of Retailing Online 2006," a Shop.org survey conducted by Forrester Research.

4 The State Of Retailing Online 2009: Merchandising And Web Optimisation, Forrester Research, Sucharita Mulpuru, August 14, 2009

RichRelevance is the leading provider of dynamic e-commerce personalisation for the world's largest retailers, including Walmart and Sears. Founded and led by the e-commerce expert who pioneered personalisation R&D at Amazon.com, RichRelevance helps retailers increase revenues by powering relevant experiences throughout the customer life-cycle and across multiple sales channels. The company stands apart for its dedicated team of personalisation experts, integrated solution suite, and award-winning personalisation engine, which enables twice as many consumer touch-points as the industry average. RichRelevance is located in San Francisco, with offices in Seattle and London.

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