

RETAIL ECOLOGIES,  
E-COMMERCE, AND INFORMATION  
ARCHITECTURE

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# YOUR WEB SITE HAD BETTER MATCH YOUR CUSTOMERS' EXPECTATIONS

Have you ever gone to an e-commerce site and gotten angry because it demanded that you register and “become a member,” even before you could see if they have what you want?

What drives that frustration, besides the obvious annoyance factor? What is it about “membership” that seems so inappropriate for a simple shopping experience?

Well, let us help you understand one reason why e-commerce sites might not be meeting your expectations—and, if you’re a stakeholder in an e-commerce site, why you might be giving your *own* customers a big dose of that same frustration.

Part of what you can do to improve your site is to build an e-commerce experience, including an appropriate information architecture, that matches the expectations your customers bring to your site. For now, though, forget about how other e-commerce sites shape what customers expect. Let’s go back to basics: what’s it like to shop in the physical world?

# WHAT'S A RETAIL ECOLOGY?

Before your customers ever click through the front door of your site, they've gained years of experience in retail: handing currency and plastic over to human beings in a bricks and mortar building in exchange for goods and services. Like ecosystems in the natural world, each of these retail settings involves the consumer in a different type of ecology, or shopping experience.

Ethnographers Tony Salvador, Genevieve Bell, and Ken Anderson have developed a matrix to describe the four basic types of retail ecologies they've observed from American consumers' shopping experiences.<sup>1</sup> This matrix is based on two dimensions: object meaning, which can be low to high, and social relationships, which can also be low to high.

The first dimension, **object meaning**, centers on the stuff that people buy (see Figure 1). This object meaning dimension resonates strongly with economic theories of use value at the low end of this dimension and symbolic value at the high end of this dimension. Use value is the value of the good or service in order to carry out a function — a car, for example, provides transport. Symbolic value is the social value of possessing, using, and displaying the service or commodity — an SUV, for example, can be a metaphor for power, wealth, status. Items low in object meaning tend to be utilitarian and impersonal: pens and pencils, for example, a gallon of milk, gas for the car. Items high in object meaning tend to be objects of desire and have a great personal or cultural value attached to them, regardless of their usefulness. Fine jewelry and fine art—in fact, just about anything collectible—are good examples.

**Figure 1: The dimension of object meaning**

<p><b>Low object meaning</b> <i>Utilitarian, impersonal, use value</i></p> <p>Fuel School supplies Groceries</p>	<p><b>High object meaning</b> <i>Subjective high value, regardless of utility, symbolic value</i></p> <p>Fine jewelry Fine art Collectibles in general</p>
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<sup>1</sup> Salvador, Tony, Genevieve Bell, and Ken Anderson. "Design Ethnography." *Design Management Journal*, Fall 1999: pp.35-41.

The second dimension, **social relationships**, centers on the degree to which relationships with others are implicated in the consumers' purchase, and whether those relationships are low or high in personal meaning (see Figure 2). A purchase which is low on the social relationship scale may be one the consumer makes for himself or herself: personal hygiene products, prescriptions, a single value meal at McDonald's. By contrast, a purchase which is high on the social relationship scale can be one made for a significant other (greeting cards, an engagement ring), to share with friends and family (bottles of wine), or with a companion (antiquing during a weekend getaway). In some way, the consumers' purchases are connected to a meaningful relationship with another person.

**Figure 2: The dimension of social relationships**

<p><b>Low social relationship</b> <i>Purchase made for self</i></p> <p>Personal hygiene Prescriptions Single-serving meals</p>	<p><b>High social relationship</b> <i>Purchase tied to relations with others</i></p> <p>Greeting cards Engagement ring Wine Antiquing</p>
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Combining these two dimensions produces a matrix with four quadrants. Salvador and his colleagues describe these quadrants as the four basic types of retail ecologies (see Figure 3).

**Figure 3: The four retail ecologies**

<p><b>Provisional</b>  <i>Object meaning: low</i>  <i>Social relationship: high</i></p> <p>“You feel good about what you are doing for your loved ones ... and treat yourself.”</p>	<p><b>Pilgrimage</b>  <i>Object meaning: high</i>  <i>Social relationship: high</i></p> <p>“You have a mystical, ephemeral really fun experience – it’s the holy grail of shopping.”</p>
<p><b>Maintenance</b>  <i>Object meaning: low</i>  <i>Social relationship: low</i></p> <p>“Gotta get it done as quickly, easily and efficiently as possible.”</p>	<p><b>Consumption</b>  <i>Object meaning: high</i>  <i>Social relationship: low</i></p> <p>“You feel good about yourself, it’s a retail therapy kind of thing.”</p>

*Quotations are taken from Salvador et al., p.40*

In the first ecology, **maintenance**, the purchaser is focused on buying less meaningful objects which are not necessarily tied to a network of social relationships. Think of stamps for mailing the bills, or a monthly pass for public transit. These items provide no incentive or pleasure to linger over their purchase.

In the **provisional** ecology, as with the maintenance ecology, the purchaser is selecting objects that are relatively low in meaning. However, social relationships are more involved in the purchase. Such shopping you do when the kids need pens, pencils, erasers, and notebooks for back to school, or when your husband needs more underwear and socks.

Buyers in the **consumption** ecology are in the market for objects with high meaning—that is, products which will provide value far beyond their basic utility. Social relationships play a much lesser (if any) role in their purchase. Consumers buy these items because they make them feel good—like their favorite music, or a set of salt and pepper shakers to add to their collection.

Shoppers in a **pilgrimage** ecology place importance both on the objects they buy and on the social relationships involved in the shopping experience. Shopping for wedding rings is a great example: both the objects being purchased and the social relationship driving the purchase are high in personal value. Visiting a winery is another example. Not only can consumers enjoy the sensory experience of smelling and tasting wine, but they can also share their impressions with their companions and buy a case to take home for their next dinner party.

# INFORMATION ARCHITECTURE FOR CYBERSPACE RETAIL ECOLOGIES

How, then, do these retail ecologies from the physical world translate to e-commerce? When we first read about the retail ecology matrix, we quickly got involved in a lively discussion of how the characteristics of each ecology manifest themselves on e-tailers' sites. Being information architects by trade, naturally we were biased to examining how various IA elements differ from ecology to ecology. What follows are our observations and recommendations of how bricks and mortar retail ecology can be carried over to the world of e-commerce.

## IA FOR THE MAINTENANCE ECOLOGY

In a maintenance ecology, the consumer expects to have a fast, efficient buying experience. For an e-commerce site, this requires an information architecture which supports users' ability to find and purchase objects quickly. Some essential characteristics include:

**Clear Labeling.** Labels should be succinct and unambiguous, especially for product categories. Any label which makes a consumer stop, scratch his head, and wonder is only a barrier to making a speedy purchase. "Pillows and Bedding," for example, would be a more appropriate label for a product category than "Bedroom Comforts."

**Flexible Search Terms.** The search engine should be forgiving of misspelled words and alternate terms. A user who wants to purchase the latest novel by Tom Wolfe will be slowed down considerably if his search for "Tom Wolf" returns no matches.

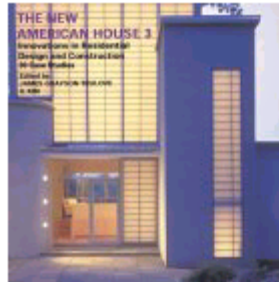
**Shallow Browsing.** The browsing hierarchy should be broad and shallow, to get the user to the right product with as few clicks as possible.

**Navigation Shortcuts.** Shortcuts to common tasks are particularly important to speeding up online retail transactions. These could be links that appear on every product page, such as Amazon has done with its One-Click Ordering (see Figure 4). The site could also feature shortcuts on the main page of the site, as Northwest Airlines has done by placing a link to "Make a Reservation Now" on its home page (see Figure 5).

**Figure 4: Amazon's One-Click Ordering feature, a navigation shortcut available from every product page**

### The New American House 3

by [James Grayson Truelove](#) (Editor), [James Grayson](#) (Editor), [Il Kim](#) (Editor), [James Grayson Truelove](#) (Editor)



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(you can always cancel it later)

**Ship to:**

Dennis Sch- 48201 

Add gift wrap or note

[Review or change your 1-Click addresses](#)

**Figure 5: Northwest provides a high-level shortcut on its home page to its online reservations feature**

 **NORTHWEST AIRLINES**

Travel Plan

► Make a **Reservation Now**



**Save 1,000 r**

► [Wo](#)  
► [Sat](#)  
► [Via](#)

**Flight Check-In**  
► Click Here

Fast Trip Finder



## IA FOR THE PROVISIONAL ECOLOGY

An e-commerce site geared to a provisional ecology would have more of what we've dubbed "relationship-supportive features," as well as appropriate information architecture characteristics. These include:

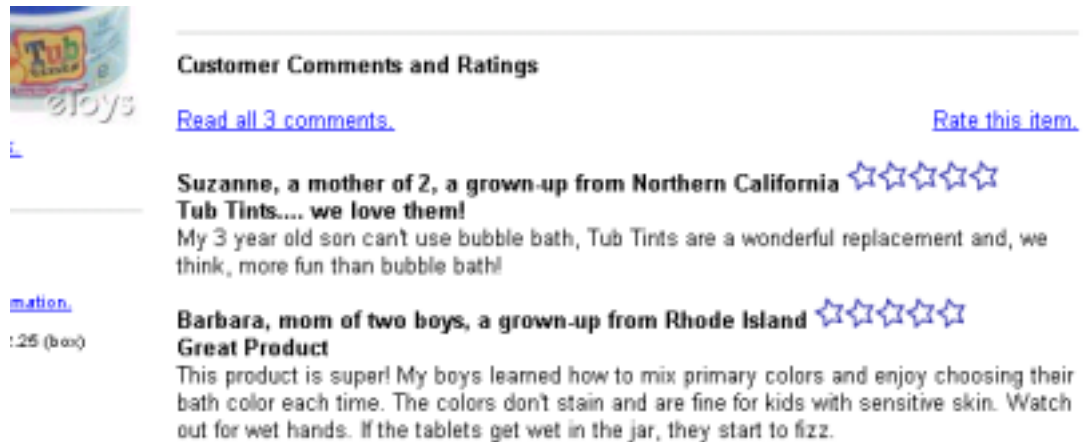
**Ability to Save Product Selections.** One feature that allows users to save their product choices is the wish list, which is appearing on more and more e-commerce sites (see Figure 6). Wish lists greatly help shoppers who want to make appropriate purchases for others yet may not know exactly what the recipients might want.

**Figure 6: A user's wish list from Amazon.com which removes the ambiguity from purchasing decisions**

The screenshot shows the Amazon.com interface for a user's wish list. At the top, there's the Amazon logo and navigation links like 'VIEW CART', 'WISH LIST', 'YOUR ACCOUNT', and 'HELP'. Below that, there's a search bar and a navigation menu with categories like 'INTERNATIONAL', 'TOP SELLERS', 'FRIENDS & FAVORITES', 'FREE E-CARDS', and 'TAX CENTER'. The main content area is titled 'Friends & Favorites > Jennifer Kush's Wish List'. On the left, there's a profile section for Jennifer Kush, including her location (Manchester, MI) and a bio. Below that is a 'WISH LIST SEARCH' section with input fields for 'Enter Name or E-mail' and 'Location (optional)'. The main list of items is titled 'Item(s)' and has columns for 'Wants' and 'Pr'. The first item is 'MasterCook 6.0 Deluxe' by Sierra Home, a CD-ROM, with a price of \$24. The second item is 'Road For The Journey' by Shana Noll, Russell Walden, an Audio CD, with a price of \$15. Both items have a 'Wants' count of 1 and a 'Usualy steps in 24 hours' note.

**Descriptive Content.** Provisional shoppers who are making purchases for others may know less about the products being offered than if they were making the purchase for themselves. More detailed product information will help them judge the appropriateness of an item for another person. Product reviews and ratings, such as those offered on eToys, are one way shoppers can gain important clues as to product quality, reliability, and construction (see Figure 7).

**Figure 7: eToys offers informative product ratings and reviews from other customers**



The screenshot shows the eToys website interface for 'Tub Tints'. On the left is a product image of a 'Tub Tints' jar. The main content area is titled 'Customer Comments and Ratings'. It includes a link to 'Read all 3 comments.' and a link to 'Rate this item.'. Two customer reviews are displayed, each with a five-star rating. The first review is from Suzanne, a mother of 2 from Northern California, who says 'Tub Tints... we love them!' and 'My 3 year old son can't use bubble bath, Tub Tints are a wonderful replacement and, we think, more fun than bubble bath!'. The second review is from Barbara, a mom of two boys from Rhode Island, who says 'Great Product' and 'This product is super! My boys learned how to mix primary colors and enjoy choosing their bath color each time. The colors don't stain and are fine for kids with sensitive skin. Watch out for wet hands. If the tablets get wet in the jar, they start to fizz.'

**Enriched Search Results.** For the user who can describe but may not have the exact term or brand name for a product, search engines can provide guidance in finding the product on the site. Such a search engine would not only handle misspellings and alternate terms, but it might also return categories for browsing as well as item matches and near-matches.

**Contextual Links to Related Products.** Product pages could incorporate links to other products which shoppers may not think to include with their purchase. Batteries for electronic toys are one example, pens or pencils to go with notebook paper are another.

## IA FOR THE CONSUMPTION ECOLOGY

Shoppers in a consumption ecology are highly focused on the objects they are buying. An e-commerce site which supports such an ecology will incorporate appropriate features and information architecture characteristics, including:

**Even More Descriptive Content.** Because the object is the focus of the buying experience, shoppers want to have detailed information about each product. Beyond the basics of available sizes and colors, they might want to see multiple views of the same product, compare it to similar products, and browse through all the options in a product category. REI.com, a retailer of outdoor gear, is just one site that offers such extensive detail about its goods (see Figure 8).

**Figure 8: REI.com offers a wealth of detail on its product pages**

Specification	Description
Weight	314 grams
Suggested use	On/off road cycling
Material	EPS with Fusion In-Mold Microshell (R)
Vents	19

**This vented cycling helmet with visor suits on- or off-road cycling demands**

- Fusion-Fit(TM) retention system secures snugly at the base of the head to prevent bounce; horizontal and vertical adjustments customize the fit
- Fusion In-Mold Microshell(R) provides a solid structure to protect the head from impact; CPSC certified
- Nineteen vents provide ample air flow at high- or low-speed riding
- Snap-in visor keeps the sun or rain out of the eyes
- Perforated nylon-knit padding secures firmly on the head while remaining cool and comfortable
- Retention system allows for adjustments while riding and can accommodate a ponytail

Size S fits head circumference 20-1/4" - 22", size M fits 22-3/8" - 23-1/8", size L fits 23-1/2" - 24-1/4".  
Made in USA.

**Evocative Labels.** The emotion or attitude which the shopper may associate with a product can be reflected in the labeling used on the site. For example, Gaiam.com, an online retailer of natural foods and other alternative products, labels the major categories on its splash page as “Shop,” “Learn,” and “Live” (see Figure 9). This suggests that Gaiam.com’s customers expect much more from their online shopping experience than simply ordering organic oatmeal to be delivered to their home.

**Figure 9: Gaiam.com directs users with evocative category labels such as Shop, Learn, and Live**



**Contextual Links to Other Products of Interest.** By including links on product pages to associated items, users have an opportunity to make serendipitous discoveries of other products they might enjoy. Think of the typical cosmetics department which takes shoppers on a winding path past shelves of glitzy boxes and clerks wielding bottles of perfume. Contextual links can provide an online equivalent to this type of shopping experience.

**Personalization.** Personalization plays an important role in a consumption ecology, given that shoppers are buying items which are highly meaningful to them. By remembering shoppers' purchases and offering other product suggestions based on those purchases, personalization functions similarly to contextual product links—that is, it exposes the user to other products he might be inclined to purchase.

## IA FOR THE PILGRIMAGE ECOLOGY

With both objects and social relationships playing important roles in a pilgrimage ecology, e-commerce sites can incorporate features and information architecture elements found in both the provisional and consumption ecologies to provide this type of experience. They include:

**Interaction with Others.** While wish lists provide an indirect means of communication, other features can allow users to exchange information directly with one another. Common to several e-commerce sites are virtual communities, discussion boards where users ask questions and swap ideas on topics of interest. Cooking.com’s Community Kitchen is just one example (see Figure 10).

**Figure 10: Cooking.com’s Community Kitchen enables users to interact directly with one another**



Taking this one step further, Landsend.com offers a unique interactive feature called “Shop with a Friend,” which enables two users to browse the site together (see Figure 11). If this site were a store, its aisles would be wide enough for the same two shoppers to walk together side by side.

Figure 11: Shop with a Friend at Landsend.com, the ultimate relationship supportive feature



**Evocative Labels.** Like the consumption ecology, text that evokes a particular mood or emotion can enhance the pilgrimage aspect of a shopper's experience. Earlier we described the experience of visiting a winery as a pilgrimage ecology. This has not been lost on the folks at Wine.com. Their white wine home page, for example, categorizes "Wines by Style," with category labels such as "Crisp, Racy, Bracing," and "Full-Tilt Boogie" (see Figure 12). Evocative, indeed.

Figure 12: Wine.com offers an evocative way to categorize white wine

**Whites by Style**

**Fine and Fizzy**  
Bubbly wines for all occasions.

**Crisp, Racy, Bracing** As zesty and refreshing as a sea breeze

**Eat a Peach**  
Fruity, aromatic and seductive

**Full-tilt Boogie**  
Big, round and rich!

**Dessert in a Glass**  
Who can resist these?

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# THE BUSINESS VALUE OF MATCHING APPROPRIATE IA WITH APPROPRIATE ECOLOGY

Does your site's information architecture support the type of retail ecology your customers expect from their shopping experience? If you don't know, a gap analysis will help. What you need to do:

1. Determine the type of ecology your site provides now.
2. Talk to users to determine what type of ecology they expect or prefer.
3. Look at features and IA elements to add, remove, or enhance in order to close any gaps you discover.

Taking these steps will help you provide an e-commerce experience which your customers will find user-friendly—or, at least, one that won't alienate them so much that they never return.

The biggest problem we've found with e-commerce retail ecology is when user expectations and site ecologies clash. Recall from our introduction the example of sites that force you to register for membership when all you want to do is make a simple purchase. Frustrating, yes? We suspect the drive to get users to feel part of a "community" comes from advice touted in the early days of the web: if you want users to return to your site, give them chat or discussion boards that will draw them back on a regular basis. However, for e-commerce sites, the solution to everything is not to add more features, functions, and options *unless they are appropriate for the type of ecology your customers expect*. Would you want to stop by a discussion board when you're renewing your driver's license online? We didn't think so.

However, some sites do face the challenge of needing to support multiple ecologies. This may result from having different types of users, or even from having the same users making different types of purchases. A shopper might buy a music CD one day as a gift (a provisional purchase), the next day as a treat for herself (a consumption purchase).

Northwest Airlines has done a good job of recognizing and supporting different ecologies on its sites. Here the business traveler can find a maintenance ecology with fast, efficient service ([www.nwa.com](http://www.nwa.com)), while the vacation traveler can find a wealth of information more suited to a provisioning or consumption ecology ([www.nwaworldvacations.com](http://www.nwaworldvacations.com)).

Amazon.com has also done well in executing a multi-ecology site. It has at least one feature to support each type of ecology: one-click ordering (maintenance); wish lists (provisional); contextual links to related products, enabled by collaborative filtering (consumption); and a Friends and Favorites area to share product reviews and recent purchases with others (pilgrimage).

However, Amazon suffers a bit when its ecologies bleed into one another. Its personalization feature, for example, does not easily distinguish between purchases you make for yourself and purchases you make for others. The net result is that “Your Recommendations” may not be items which interest you at all. Perhaps Amazon should consider easily allowing users to designate “Do Not Add This Item To My Preferences” for each purchase at check-out. If a user crosses an ecology it is evident to the user and it should also be for the web site.

Retail ecology can be a powerful concept for improving the information architecture of your web site, which will create a more positive e-commerce experience for your users. Spend some time getting to know the ecologies where your customers shop for your products in the bricks and mortar world, and talk with them about what they expect from your site. You may uncover hidden opportunities to distinguish your site from others in the e-commerce arena.



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The Argus Center for Information Architecture provides leadership in defining and advancing the evolving discipline of information architecture.

## **What We Do**

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- Manage a selective collection of links to the most remarkable content, events, and people in our field.
- Produce original articles, white papers, conferences, and seminars that draw from the experience and expertise of the Argus team.
- Conduct research, independently and through partnerships, focused on improving our collective understanding of information architecture.

## **Who We Are**

The Argus Center for Information Architecture was created by information architects for information architects.

It is sponsored by Argus Associates, a consulting firm that specializes in information architecture design. The entire Argus team contributes to its development.

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