

Building Retail Website Taxonomies Not as Easy as it Seems

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About Heather Hedden

- Taxonomy consultant full-time with Project Performance Corporation
- Continuing education instructor with Simmons College Graduate School of Library and Information Science
- Author of *The Accidental Taxonomist* (Information Today, Inc., 2010)
- Background in indexing

Broad experience creating taxonomies for:

- Corporate web sites and intranets (Project Performance Corporation)
- Enterprise document management in SharePoint (First Wind)
- Integration within an enterprise search software product (Viziant)
- Periodical index databases (Gale)
- Consumer web site taxonomies (Demand Media)



Characteristics of general retail/ecommerce taxonomies

- Separate hierarchy for each product category or department
 - Typically 5 – 20 hierarchies/top terms
 - Typically 3 – 20 terms/categories per level
- Simple hierarchy, with no nonpreferred terms
- Hierarchy depth typically of 3-5 levels
- Facets may exist at lower levels of the hierarchy.
- Related terms (*See also* relationships) may/may not exist.
- Ordering is not always alphabetical (rather popular or logical).



Introduction: Hierarchies



12

- See All Departments
- Electronics & Office >
- Movies, Music & Books >
- Home, Furniture & Outdoor >
- Apparel, Shoes & Jewelry >
- Baby & Kids >
- Toys & Video Games >
- Sports & Fitness >
- Auto & Home Improvement >
- Photo >
- Crafts & Party Supplies >
- Pharmacy, Health & Beauty >
- Grocery & Pets >



Search by Keyword

PRODUCTS ▾

SERVICES

10

- TV & Video
- Audio
- Mobile Phones
- Cameras & Camcorders
- Computers
- GPS, Car & Marine
- Office Products
- Movies, Music & Instruments
- Video Games
- Home & Appliances



16

- Shop All Departments
- Unlimited Instant Videos >
- MP3s & Cloud Player >
15 million songs, play anywhere
- Amazon Cloud Drive >
5 GB of free storage
- Kindle >
- Appstore for Android >
Get Roller for free today
- Digital Games & Software >
- Audible Audiobooks >
- Books >
- Movies, Music & Games >
- Electronics & Computers >
- Home, Garden & Tools >
- Grocery, Health & Beauty >
- Toys, Kids & Baby >
- Clothing, Shoes & Jewelry >
- Sports & Outdoors >
- Automotive & Industrial >



20

DEPARTMENTS

- Appliances
- Automotive & Tires
- Baby
- Beauty
- Bed, Bath & Home
- Books & Magazines
- Clothing
- Electronics & Computers
- Fitness & Sports
- Home Services
- Jewelry & Watches
- Lawn & Garden
- Music, Movies & Games
- Office Products
- Outdoor Living
- Replacement Parts
- Shoes
- Tools
- Toys & Games
- Clearance

LANDS' END

10

WOMEN MEN GIRLS BOYS SWIM OUTERWEAR SHOES SCHOOL UNIFORMS FOR THE HOME LUGGAGE



14+

4 Please change this text in the master templates

Women | Men | Baby | Kids | Shoes | Beauty | Home | Bed + Bath | Kitchen + Dining | Furniture | Patio | Toys | Electronics | Movies | See More

Electronics & Office**Movies, Music & Books****Home, Furniture & Outdoor****Apparel, Shoes & Jewelry****Baby & Kids****Toys & Video Games****Sports & Fitness****Auto & Home Improvement****Photo****Crafts & Party Supplies****Pharmacy, Health & Beauty****Electronics**

Auto Electronics

Cameras &
CamcordersCell Phones &
Services

Computers

GPS & Navigation

Home Audio &
Theater

iPad & eReaders

iPods & MP3 Players

Office

TV & Video

Video Games

Computers

Desktops

Laptops

Monitors

Networking

Printers & Supplies

Tablet PCs

See all

Office

Office Furniture

Office Supplies

Women**Men****Baby****Kids****Shoes**

Activewear

Clothing

Dresses

Handbags + Accessories

Intimates

Jeans

Jewelry

Juniors'

Maternity

Clearance

New Arrivals

Weekly Deals

Outerwear

Pants

Petites

Plus Size

Shoes

Sleepwear

Swimwear

Tops

PRODUCTS ▾**SERVICES** ▾**SHOPS & DEALS** ▾**TV & Video** >

Audio

Mobile Phones

Cameras & Camcorders

Computers & Tablets

GPS, Car & Marine

Office Products

Movies, Music & Instruments

Video Games

Home & Appliances

TVs

Projectors & Screens

Blu-ray & DVD Players

Home Theater Systems

Internet Connectable & Smart TV

Digital TV Converters

DIRECTV, TiVo & Cable TV

Stands, Mounts & Furniture

Portable TV & Video

TV & Home Theater Services

Accessories

FOR THE HOME**LUGGAGE****OVERSTOCKS**

NEW ARRIVALS

FLIGHTWISE LUGGAGE

LIGHTHOUSE LUGGAGE

CARRY-ON LUGGAGE

WHEELED LUGGAGE

DUFFEL BAGS

KIDS' BACKPACKS, LUNCH
BOXES & LUGGAGE

TOTES

TOILETRY KITS & TRAVEL
ACCESSORIESBRIEFCASES & LAPTOP
BAGS

DIAPER BAGS

- Facets are for narrowing categories that are similar and support the same kinds of attributes.
- Facets work well for (retail) products that are sufficiently similar: all shoes, all luggage, all laptop computers.
- Facets may be:
 - the only type of taxonomy on a specialized retail site, or
 - appear at lower (more specific levels) of a general retail site.



Introduction: Facets

Search Women's Shoes

Any Brand ▾
Any Type ▾
Any Category ▾
Any Category ▾
Above the Ankle Boots
Active Sandals
Adjustable Strap Shoes
Aerobic Shoes
After Sport Sandals
Airport Friendly Boots
Alligator Shoes
Amphibious Sandals
Animal Print Shoes
Animal Slippers
Ankle Boots
Ankle Strap Sandals
Ankle Straps
Approach Shoes
Après Ski Boots
Aqua Socks
Athletic Accessories
Athletic Shoes
Backless Sneakers

Search Men's Shoes

adidas ▾
Athletic ▾
Sneakers ▾
10 ▾
Regular ▾
Black ▾
Any Country ▾
\$65 - \$100 ▾
Search

Search Children's Shoes

Any Brand ▾
Any Type ▾
Any Category ▾
Any Size ▾
Any Width ▾
Any Color ▾
Any Country ▾
Any Price ▾
Search

[Spirit](#)
[Comfort](#)
[Leim](#)
[ton & Murphy](#)
[ss](#)

- [Mephisto](#)
- [Merrell](#)
- [Minnetonka](#)
- [Naturalizer](#)
- [New Balance](#)
- [Propet](#)

- [PUMA](#)
- [Reebok](#)
- [Rockport](#)
- [Saucony](#)
- [Skechers](#)
- [Softspots](#)

- [Sperry Top-Sider](#)
- [Stride Rite](#)
- [Stuart Weitzman](#)
- [Timberland](#)



Format

- Paperback (386,973)
- Hardcover (240,008)
- Kindle Edition (17,788)
- Audible Audio Edition (151)
- HTML (15,520)
- PDF (13,078)
- Audio CD (529)
- Board Book (296)
- Audio Cassette (413)
- Calendar (1,823)
- School Binding (481)
- MP3 CD (27)

Author

Any Author

- David S. Moore (525)
- Ron Larson (518)
- Charles Darwin (464)
- Margaret L. Lial (388)
- David Halliday (295)
- Deborah Hughes-Hallett (221)
- E. John Hornsby (219)

> [See more...](#)

Series

Any Series

- Unleashed (94)
- Sams Teach Yourself (81)
- Apogee Books Space (56)
- Essentials (51)
- Mathstart (48)
- Oxford Logic Guides (46)
- Demystified (42)

> [See more...](#)

Shipping Option [\(What's this?\)](#)

Any Shipping Option

- Free Super Saver Shipping

Brand

- HP (44)
 - Toshiba (21)
 - ASUS (19)
 - Dell (18)
 - Sony (14)
 - Samsung (12)
 - Apple® (12)
 - Lenovo (7)
- [See all...](#)

Price Range

- Less than \$600 (72)
- \$600 - \$899 (47)
- \$900 - \$1199 (24)
- \$1200 - \$1799 (19)
- \$1800 and Up (7)

Status

- New Arrivals (23)
- Pre-Order (2)

Screen Size

- 17" and Up (30)
- 15" - 16" (81)
- 14" and Under (58)

Laptop Features

- 3D-Ready (2)
- Backlit Keyboard (22)
- Best Buy PC App (39)
- Blu-ray (33)
- Built-in Webcam (163)
- ENERGY STAR Qualified (136)
- HDMI Output (137)
- Wireless Capability (53)

Target : Furniture : Kitchen + Dining Room

Narrow by

Category

- Select category(s) [Clear](#)
- Banquet Tables (4)
 - Bistro Table (2)
 - Bistro Tables (5)
 - Counter-Height Table (1)
 - Counter-Height Tables (6)
 - Dining Table (10)
 - Dining Tables (52)
 - Folding Table (8)
 - Folding Tables (12)
 - Kitchen Table (1)
 - Kitchen Tables (1)
 - Nook Table (1)
 - Nook Tables (1)
 - Pub Table (7)
 - Pub Tables (29)

Material

- Select material(s) [Clear](#)
- Hardwood (29)
 - MDF Composite (1)
 - Metal (28)
 - Plastic (1)
 - Wood (48)
 - Wood Composite (35)

Finish

- Select finish(s) [Clear](#)
- Cherry (4)
 - Dark Cherry (1)
 - Ebony (1)
 - Espresso (14)
 - Mahogany (5)
 - Natural (7)
 - Oak (7)
 - Painted (8)
 - Unfinished (1)
 - Walnut (8)

Color

[Homepage](#) > [Women](#) > [Shirts & Blouses](#)

[« return to Women](#)

Shirts & Blouses »

- Long Sleeve (28)
- 3/4 Sleeve (13)
- Short Sleeve (8)
- Sleeveless (9)

Narrow Selection By:

Size Range

- Show All [▼](#)
- (Reg, Plus, Slim, Big & Tall, etc.)

Specific Size

- Show All [▼](#)

Color

- Show All [▼](#)

Sleeve Length

- Show All [▼](#)

Fabric

- Show All [▼](#)

Style

- Show All [▼](#)
- Show All
- All Others (56)
 - Casual (51)
 - Tailored (11)
 - Buttdown (6)
 - Split Neck (3)

Retail Taxonomy Challenges

- Different categorization methods and category cross-overs
- Accessories to larger products
- Related services (installation, repair, etc.)
- Whether to sort alphabetically or not
- Whether to compare with competitor sites
- Web site vs. physical store organization
- Business needs vs. taxonomy standards/best practices



Examples:

- Women's Shoes – in Women's Clothing; in Shoes
- Office Furniture – in Office Products; in Furniture

Cross-over product examples:

- Home Theater – in TV/Video; in Audio/Stereo
- Smartphones – in Cell Phones; in PDAs
- Printer-Scanner-Faxes – in Printers; in Scanners; in Fax Machines

Other categorization challenges

- Music and Movies media separate or in with players/equipment
- Video Games in Toys & Games or in Electronics



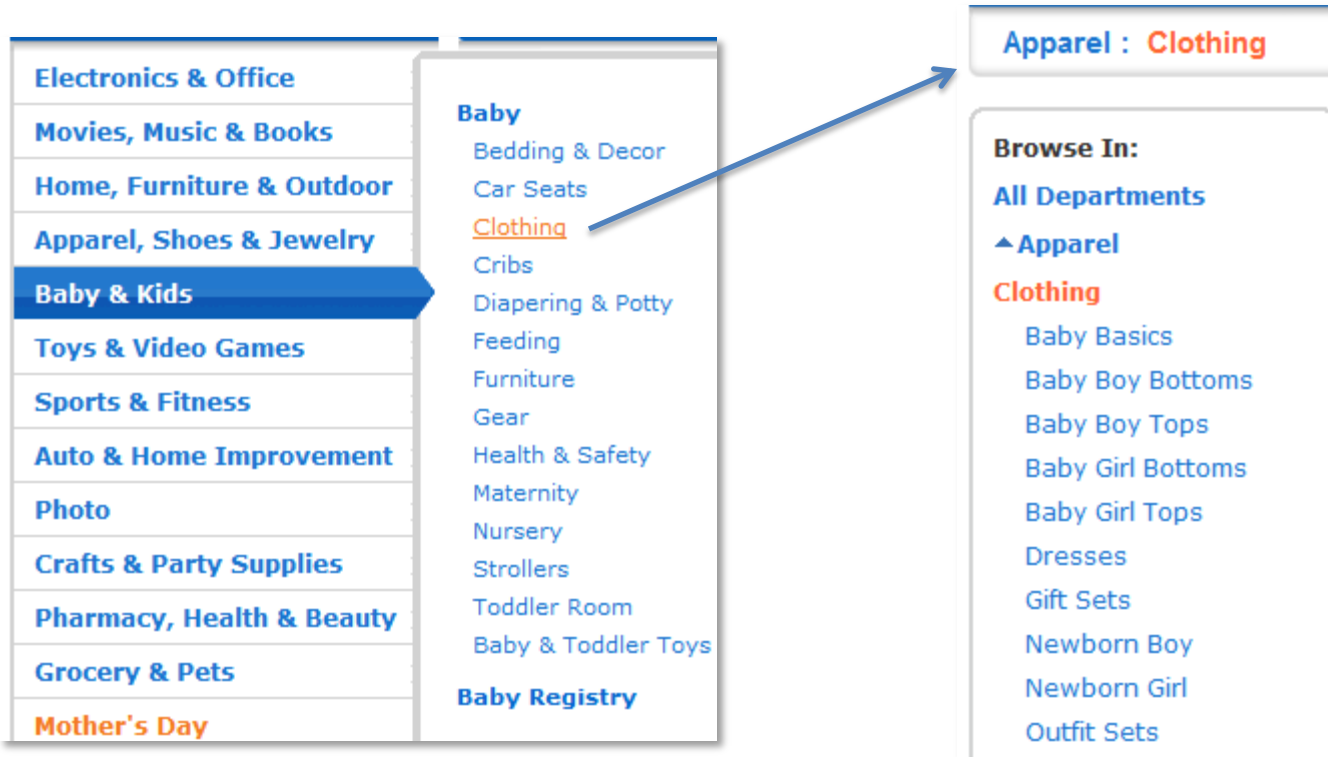
Put in both locations – *Polyhierarchy*

OK, but...

- Too much polyhierarchy confuses the tree structure. Polyhierarchies work better for specific terms/categories at the lowest level or second-lowest with small sub-hierarchies, (e.g. **Fitness GPS Watches** in **GPS Systems**, in **Portable Fitness Electronics**, and in **Watches**), not large hierarchy branches.
- Systems may not fully support polyhierarchy, with breadcrumb trail reflecting a fixed path, not dynamic, not always the user's path.



Challenges: Categorization and Cross-Overs



Breadcrumb trail may not reflecting the user's navigation path down the hierarchy, but rather only the other, one fixed hierarchy, path of the polyhierarchy.



Challenges: Accessories to Products

Examples:

- Camera Accessories
- Computer Accessories
- Boat Accessories

Issues:

- When is an item an “Accessory” and when is it not?
- Where to put accessories (related) in a hierarchical-only taxonomy?
- Which categories should have Accessories?
- At what level in the hierarchy do Accessories appear?
- Should accessories appear in polyhierarchies?
- Should an Accessories category be used for miscellaneous?



When is an item an “Accessory” and when is it not?

Example: Cameras - Lenses, Lighting, Memory Cards, Bags

Cameras & Camcorders

- . Point & Shoot Cameras
- . Compact System Cameras
- . Digital SLR Cameras
- . Camera Lenses
- . Camcorders
- . Memory Cards & Readers
- . Photography Lighting
- . Camera & Camcorder Accessories
- . . Camera & Camcorder Bags

or

Cameras & Camcorders

- . Point & Shoot Cameras
- . Compact System Cameras
- . Digital SLR Cameras
- . Camcorders
- . Camera & Camcorder Accessories
- . . Camera & Camcorder Bags
- . . Camera Lenses
- . . Memory Cards & Readers
- . . Photography Lighting



Where to put accessories (which are related) in a hierarchical-only taxonomy?

Computers & Accessories

- . Laptop Computers
- . Desktop Computers
- . iPad, Tablet & eReaders
- . Monitors
- . Mice & Keyboards
- . Printers & Scanners
- . Computer Memory
- . Computer Components
- . Computer Accessories

or

Computers

- . Laptop Computers
- . Desktop Computers
- . iPad, Tablet & eReaders
- . Monitors
- . Mice & Keyboards
- . Printers & Scanners
- . Computer Memory
- . Computer Components
- . Computer Accessories



At what level in the hierarchy do accessories appear?
Should accessories appear in polyhierarchies?

Where should **Digital SLR Camera Accessories** go?

Under **Digital SLR Cameras**,
under **Camera & Camcorder Accessories**,
or under both?

Cameras & Camcorders

- . Point & Shoot Cameras
- . Compact System Cameras
- . Digital SLR Cameras
- . **Digital SLR Camera Accessories**
- . Photography Lighting
- . Camcorders
- . Camera & Camcorder Accessories
- . **Digital SLR Camera Accessories**



Examples:

- Delivery and Setup/Installation Services
- Repair Services, Technical Support Services
- Partnered Telecom/Media Subscription Services

Issue:

- If the taxonomy does not support related terms, where in the hierarchy do Services appear?
- Do Services even belong in the hierarchical taxonomy?



Challenges: Related Services

Services listed in a separate hierarchy

Shop By Category

- Accessories
- Camcorders
- Digital Picture Frames
- Digital Point & Shoot Cameras
- Digital SLR Cameras
- Memory & Media
- Photo Printers
- Security Cameras
- Web Cams

Other Cool Links

- Learn about Internet Connectable Devices
- TV Matchmaker
- Camera Matchmaker
- GPS Matchmaker
- Electronics Trade In Program
- Battery Finder
- Clearance Electronics

DEPARTMENTS WEEKLY AD & DEALS GIFTS **SERVICES** SHOP

HOME SERVICES

- Repair
- Home Improvement
- Cleaning
- Installation

BY PRODUCT

- Appliances
- Home electronics
- Lawn and garden

BY ROOM

- Bathroom
- Bedroom
- Exterior/Outdoors
- Family Room
- Garage
- Kitchen

IN-STORE SERVICES

- Automotive
- Layaway
- Optical
- Portrait Studio

HOME SERVICES

- Cleaning
- Home Improvement
- Installation
- Repair

PARTS

- Parts Direct

My scheduled services

Sears BLUE SERVICE CREW

Services for Home electronics

is text in



Challenges: Related Services

Services listed under products

Cameras + Camcorders	Cell Phones + Phones	Computers	GPS	iPod + Audio	Movies
Bestsellers					
Brands					
Canon					
Flip Video					
Fujifilm					
Kodak					
Nikon					
Olympus					
Polaroid					
Sony					
	Camcorders				
	Compact				
	DVD				
	Flash Memory				
	Hard Drive				
	High Definition				
	MiniDV				
	Camera Accessories				
	Bags + Cases				
	Lenses				
	Photo Printers				
	Tripods				
				Digital Cameras	
				9 Megapixels + Under	
				10–12 Megapixels	
				14+ Megapixels	
				Compact	
				Digital SLRs	
				Digital Memory	
				Secure Digital (SD)	
				Memory Stick	
				Portable USB Drives	
				Card Readers	
				Digital Photo Frames	
				Services	
				Electronics Trade-In Program	
				Photo Processing	
				Service + Replacement Plans	



Challenges: Related Services

Services in both places

SHOP CAMERAS & CAMCORDERS

- Digital Cameras
- Digital SLR Cameras
- Camera Lenses
- Camcorders
- Memory Cards & USB Drives
- Photo Printers
- Digital Photo Frames
- Webcams
- Binoculars & Optics
- Accessories
- Digital Imaging Tools
- Camera & Camcorder Services

PRODUCTS ▾	SERVICES ▾	SHOPS & D
	<ul style="list-style-type: none">Geek Squad ServicesComputer Setup & ServicesTV & Home Theater ServicesCar & GPS Installation ServicesGaming Setup & ServicesiPod & MP3 Player ServicesCamera & Camcorder ServicesMarine Installation ServicesAppliance Install, Delivery & RepairService PlansRecyclingBuy Back ProgramTrade-In CenterCustomer Service	



Challenges: Display Order Choice

Could be alphabetical or could be “logical”

Shop By Category

- Accessories
- Camcorders
- Digital Picture Frames
- Digital Point & Shoot Cameras
- Digital SLR Cameras
- Memory & Media
- Photo Printers
- Security Cameras
- Web Cams

Cameras & Camcorders

- Accessories
- Camcorders
- Digital Cameras
- DSLR Cameras
- Film Cameras
- Web Cameras

- Digital Cameras
- Compact System Cameras
- Digital SLR Cameras
- Camera Lenses
- Camcorders
- Memory Cards
- Photo Printers
- Digital Photo Frames
- Webcams
- Binoculars & Optics
- Accessories

Digital Cameras

- Camera Bundles
- Digital SLR
- 14+ Megapixels
- 10-12 Megapixels
- 9 Megapixels + Under
- Long Zoom
- Film Cameras
- Waterproof

Camcorders

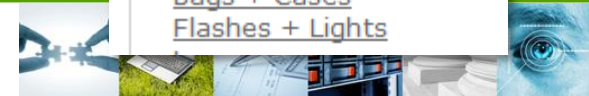
- Compact Digital
- DVD
- Flash Memory Digital
- Hard Drive +
- Memory Card
- High Definition
- MiniDV

Shop by Brand

- Canon
- FUJIFILM
- Flip Video
- JVC
- Kodak
- Nikon
- Olympus
- Polaroid
- Samsung
- Sony

Camera Accessories

- Bags + Cases
- Flashes + Lights



Challenges: Comparing with Competitors

There may not be a 100% identical competitor.
Each retailer has a slightly different focus. They want to differentiate themselves.

- Target – general, but no major appliances
- Sears – general, plus automotive parts
- Walmart – general, plus pharmacy
- Best Buy – electronics focus, plus appliances, furniture, etc.
- Sam’s Club – general, no clothing; plus pharmacy & grocery
- Amazon – book and media focus; plus everything else



Challenge: Comparing with Physical Stores

There may be a push to organize the product taxonomy in conformity with store layout and organization.

- Loyal customers might understand it.
- But are customers divided by store loyalty or by physical storer vs. online shoppers?

Factors may be unique to physical stores:

- Newest/hottest products at the entrance
- Small accessories in the checkout lines
- Larger items in the back
- Use of aisle endcaps for featured items
- Creative use of physical space



Possible taxonomy requests for “business needs” that challenge taxonomy standards or best practices:

- Placing accessories, services, or other related products in the position of narrower terms
- Creating new top level categories for relatively small, hot categories, that belong under existing top categories
- Creating multiple polyhierarchies for a product category to help promote it
- Creating intermediate level categories to group and promote subcategories, not serve navigation



Solution to taxonomy requests for “business needs” that challenge taxonomy standards or best practices:

- Create more than one navigation path
 1. Accurate hierarchies (such as in lefthand margin)
 2. Promotional categories (in central space)



Challenge: Business Needs vs. Best Practices

- List of next level categories may differ in the true taxonomy of the left hand navigation, compared with the central area.

SHOP LAPTOP COMPUTERS

- Premium Laptops
- Everyday Laptops
- Gaming Laptops
- Small Business Laptops
- Refurbished Laptops
- Embedded Mobile Broadband Laptops
- All Laptops
- Netbooks
- Laptop Accessories
- Mobile Broadband
- Computer Setup & Services

LAPTOP COMPUTERS ⓘ
Roll over the images to learn more.

Laptops	MacBooks	Refurbished Laptops	Netbooks
Choose by Type	5 Features to Consider	Compare Laptops	Know Before You Buy



Electronics

- Auto Electronics
- Cameras & Camcorders
- Cell Phones
- Computers
- GPS & Navigation
- Home Audio & Theater
- iPad & eReaders
- iPods & MP3 Players
- Office
- TV & Video

Related Categories

- Home Appliances
- Kids' Electronics
- Movies & TV
- Musical Instruments
- Video Games

Special Offers

- Clearance
- Rollbacks
- Special Buys
- Value Bundles

Shopping Tools

- Battery Finder
- Buyback Plan
- Electronic Trade-In
- Explore VUDU-enabled TVs
- Shop & Explore New

New Technology

3D TVs
from **\$888.00**

3D DVD Players

3D TV Accessories

See the Difference and Save
Look for The Green Hornet™ on Blu-ray 3D™

PAUSE 1 2 | See the Difference and Save

PROJECT
performance
CORPORATION
Part of the AEA group

Free Shipping With Site to Store on Eligible Items

TVs **Laptops** **Tablet PCs** **iPods** **Cameras**

Featured Categories



Save on TV and Video Solutions

- TVs
- Home Theater Systems



Everything for Your Laptop - for Less

- Laptops
- Cases & Bags
- Mice



Top Values in Electronics

See all **Top Values in Electronics**



- Simple taxonomies are not always simple to create
- Taxonomy design may be under constraints
- Business needs can challenge taxonomy standards
- Creative solutions may be needed



Questions

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