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Function-Based Categorization of Online Product Information Types

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ABSTRACT

Hardly any in-depth knowledge is currently available on how different types of product-relevant information influence online consumer trust and purchase decision. To address this research gap, we apply a generic function-based information typology to systematically classify the large variety of online product information and plan for a focused comparison of their functional roles and differential effects on online consumer decision making. The ultimate goal is to provide a theoretical basis for guiding and prioritizing online information organization and provision, which becomes increasingly important in the current context of information overload. The paper briefly reviews information research in e-commerce, discusses the conceptual basis of applying the generic function-based topical relevance typology to analyze online product information, and uses a variety of product examples from Amazon.com to demonstrate the process. The paper concludes with preliminary findings from this pilot study.

Keywords

Information types, information organization, e-commerce, functional relationships, topical relevance

INTRODUCTION

This study aims to investigate and compare the effects of various types of product-relevant information on the online consumer decision-making process. Consumer (B-to-C) internet commerce has flourished not only in the advanced economies such as US and Japan, but also in newly industrialized countries like China. According to IDC[1], China's online shopping volume rose to 784.93 billion Yuan ($120.76 billion) in 2011, a 66% increase from 2010.

Online product information provided by dot-com storefronts plays a central role in informing the consumer of the product value and strengthening the consumer's confidence in making the right purchase (Jeony & Lambert, 2001). Since they cannot physically inspect a product as they could in brick-and-mortar stores, online shoppers must base their decisions on information they receive on the internet. In the virtualized shopping environment, they feel more risk (Antony, Lin & Xu, 2006) and become highly responsive to the online product-related information they are getting.

Effective provision and organization of online product information becomes increasingly critical for the profitability and survival of internet retailers and manufacturers (Lee & Lee, 2004). As dot-com storefronts provide an increasing amount of product information to attract internet shoppers, *information overload* has become a pressing issue for online shopping. Information overload occurs as the amount of provided information exceeds individuals' information processing capability (Jacoby, 1984). Just as information inadequacy, too much information also leads to declines in the quality of decision making performance (Allen & Shoard, 2005). The phenomenon of information overload has caught a great deal of attention from marketers and marketing researchers since 1970s. A series of works thoroughly demonstrated that information overload not only decreases the accuracy of consumer decisions, but also leads to less satisfaction and confidence in the decision making process (Chen, Shang, & Kao, 2009; Jacoby, et. al., 1974a,1974b; Jihoon, Honavar, Miller, & Wong, 1998; Keller & Staelin, 1987; Lee & Lee, 2004; Lurie, 2004; Maes, Guttman, & Moukas, 1999; Malhotra, 1982, 1984). With the increasing

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[1] International Data Corporation (IDC) is a global provider of market intelligence, advisory services, and events for the information technology, telecommunications and consumer technology markets. IDC is a wholly-owned subsidiary of International Data Group (IDG), the world's leading technology media, events and research company.

popularization of smaller-screen mobile commerce, information overload poses an even more serious challenge for practioners and researchers.

Ecommerce information research to date has focused primarily on *information quality* and *information display*, but lacking studies on content-based *information type*. The types of product-relevant information and their mechanisms of affecting consumer decision are not well understood. The existing information-type research seems limited to only one information type, *customer evaluation*. Regarding many other types of product-related information such as product comparisons, return policy, manufacturing details, retailer reputation, use scope, side effects and so on, research is largely absent or only scratching the surface. There is not yet research that systematically investigates and compares the functional roles played by different types of product information and hardly any in-depth knowledge is currently available on their impacts on *consumer trust*, *perceived value*, *perceived risk*, and *purchase intention* in the e-retailing context.

Our project aims to bridge this gap by systematically analyzing online product information types and their differential effects on internet consumer decision making. To carry out an in-depth investigation and comparison, first we need a scheme to systematically categorize different information *types* from amass of online product information, preferably by different *functional roles* they play in consumer perception and decision making. This paper reports on a pilot study of applying a typology of function-based topical relevance relationships (Huang & Soergel, 2004, 2006; Huang, 2008, 2009) to analyze online product information types.

LITERATURE REVIEW

A Generic Typology of Topical Relevance Relationships

Topical relevance is the fundamental concept of information organization and information retrieval (Cooper, 1971; Green, 1995; Green & Bean, 1995; Hjørland, 2010; Huang & Soergel, 2004; Wilson, 1973). Topical relevance is the logical connection between *topic* and *information*, between *topic* and *topic*, and between *information* and *information*. It provides the cognitive foundation for human thinking, reasoning, communication, and decision making. Without recognizing and understanding the relevance connection between an input (or a stimulus) and its context, we could hardly make it through simple daily conversations in which inferential communicative intentions are often embedded, nor could we come to any meaningful judgment or conclusion about a given situation (Wilson & Sperber, 2002). Therefore, topical relevance with its close linkage to thinking and reasoning is central to many disciplines.

Huang (2009a, 2009b) conducted a multidisciplinary inquiry into topicality by analyzing theories and thinking from communication, rhetoric, cognitive psychology, education, information science, argumentation, logic, law, medicine, and art history. As the major outcome, the inquiry constructed a theory-grounded and empirically-verified typology of topical relevance relationships, providing a conceptual basis for a generic, function-based, topic-oriented information framework (Figure1) that is meaningful across topics, domains, and data forms. In particular, the framework is based on *functional role,* that is, the role a piece of information plays in the overall structure of a topic, by taking into account its relations with other parts of the given information. It adopts the perspective of *Rhetorical Structure Theory* (RST) in discourse analysis (Mann & Thompson, 1988; 2006), "for every part of a coherent text, there is some function for its presence, evident to readers". The emphasis of the functional classification is on the *cognitive effect* achieved on the receiver, such as a reader, a hearer, an information user, a consumer, etc. The "cognitive effect" refers to a substantial change of the receiver's knowledge state or viewpoint after receiving a piece of relevant information, which can confirm, reinforce, revise, or disprove the receiver's original beliefs. As applying to e-commerce, each kind of product information relates to the product in a different topical way and plays a specific role in enhancing the consumer's perception of a product's value as well as associated risks, and strengthening or adjusting his/her buying intention. For example, *product feature description* and *return policy* relate to a product in two very different ways and each plays a different role in influencing the consumer's purchase decision: feature description directly improves the consumer's understanding of the product's value while return policy contributes to reducing his/her anxiety of making the buying decision. Essentially, the function-based relevance typology provides a relationship framework for specifying the functional role of each type of product-relevant information and differentiating their cognitive effects on the consumer. The functional classification directly ties with the consumer's knowledge state and cognitive process underlying online decision making.

The function-based classification has been successfully applied to analyze three heterogeneous datasets in oral history, clinical question answering, and art image tagging (Huang, 2009; Huang & Soergel, 2004, 2006). Moreover, Huang & White (2005) developed *policy-capturing models* (regression-based) to explore individual effects of different relevant information on the user judgment; in these models, highly consistent results were found regarding the relative importance of each information type for the user's overall judgment. Similarly, the current study extends the research to the e-business context

by investigating individual effects of various types of product-relevant information on the overall purchase decisions; the findings from this study help to further enrich the generic topical relevance typology.
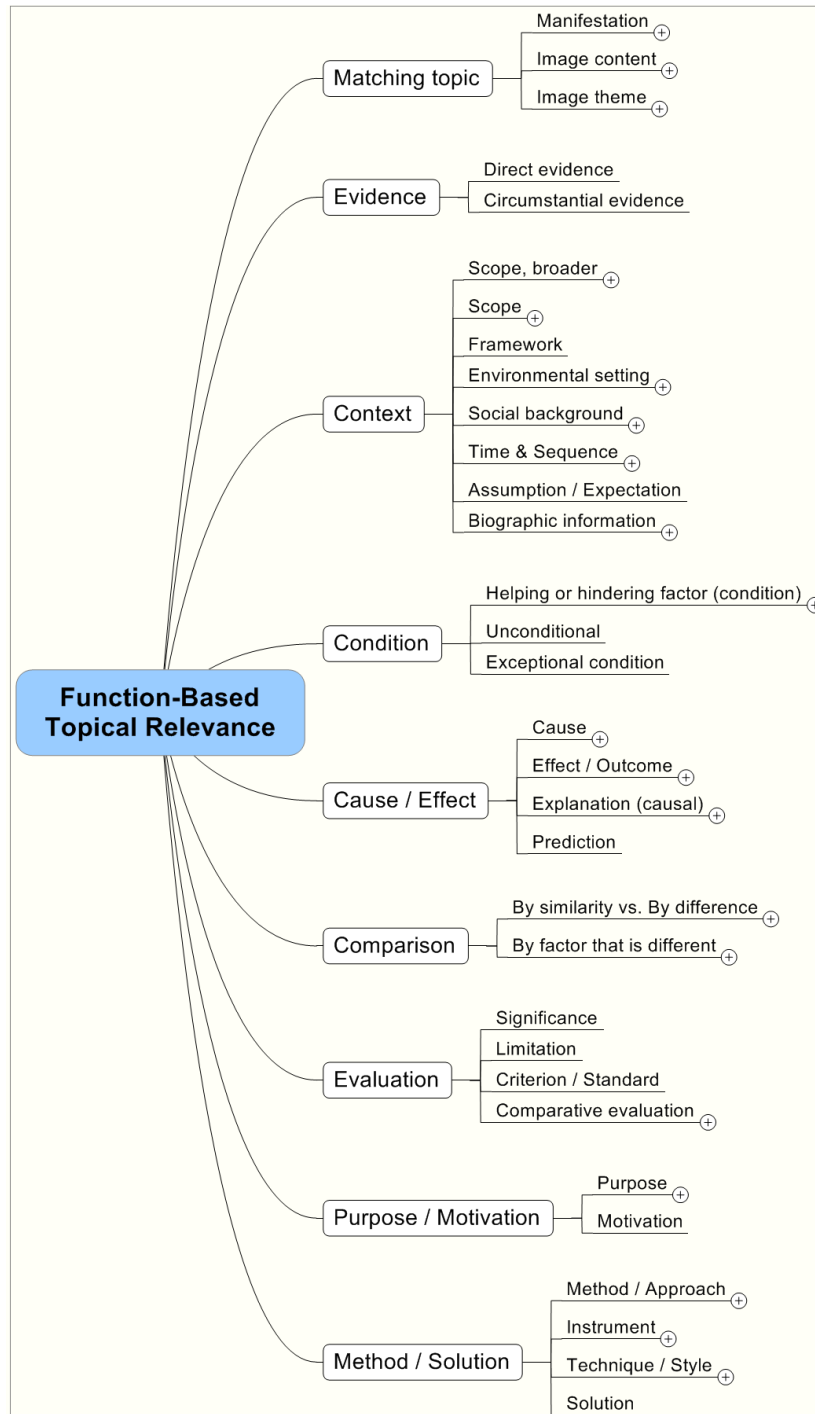

Figure 1. Function-Based Relevant Information Typology

Product Classification, Information Type, and Online Shopping Preferences

From the perspective of advertising, a number of studies have proved strong associations between the information type and the consumer's shopping preferences for product classes (Girard, Silverblatt, & Korgaonkar, 2002; Korgaonkar, Silverblatt,

& Girard, 2006; Nelson, 1970, 1974). However, this line of research never systematically analyzed and defined various information types, neither did they systematically investigate and compare their individual effects on consumer decision making.

In Nelson's *Advertising as Information* (1970), he first brought forth a product classification which soon gained wide acceptance and has provided a fruitful avenue since for understanding merchants' information provision (advertising) in relation to consumers' buying behavior. The product classification originally began with two major categories (*search product* and *experience product*). It was later refined and extended (Darby & Karni, 1973; Klein, 1998; Nelson, 1974) and eventually adapted to analyze internet retailing (Girard et al., 2002; Korgaonkar et al., 2006; Korgaonkar, Becerra, O'Leary, & Goldring, 2010; Lal & Sarvary, 1999). The product classification as adapted to e-retailing is summarized as follows (recognizing that in the context of e-retailing these distinctions are fuzzy):

- **Search products**: the consumer can determine the quality of the product prior to the purchase by searching information about the products. Examples are books and music CDs.

- **Experience products**: the consumer has a difficult time (if at all possible) to determine the quality of the product prior to the purchase; instead s/he needs to personally experience the product to determine the quality.

- **Credence products:** the consumer has no way of fully evaluating and determining the quality of the product prior to as well as after the purchase; instead s/he has to base the purchase on credence or trust of the brand. Examples are water purifier, vitamins, and anti-aging cream.

Significant differences are found in the preferred information characteristics as advertising for search, experience, and credence products. *Direct information* is dominant when advertising for search products and *indirect information* (such as brand reputability and endorsements) is preferred for experience products (Nelson, 1974). For e-retailing, products with "digital attributes (which can be communicated on the web at very low cost)" are more likely to succeed than products associated with "nondigital attributes (for which physical inspection of the product is necessary)" (Lal & Sarvary, 1999, p. 485). Digital attributes are mostly corresponding to search products whereas nondigital attributes are often associated with experience and credence products (Korgaonkar et al., 2006). From a series of empirical analyses, consumers demonstrate stronger preference of shopping search products rather than experience and credence products on the web (Girard et al., 2002; Korgaonkar et al., 2006; Korgaonkar et al., 2010). This preference can be attributed to online information provisioning: the provided standard direct product information is usually sufficient for consumers to make informed decisions about purchasing search products, yet it is inadequate for consumers to judge experience and credence products. Instead, when evaluating experience and credence products consumers tend to draw on indirect, contextual, and evaluative information, such as the retailer's reputability information, third-party evaluation, product comparison guides, and customer reviews.

Given its strong influence on consumers' information preferences, our study considers *product type* as a significant factor to moderate the decision effects of information type. It guides us to collect online product cases for the following analysis and provides a basis for identifying product-related online information provisioning strategies.

RESEARCH QUESTIONS

This pilot study intends to answer the following two research questions:

1. What are the manifestations of the function-based topical relevance typology in the e-retailing context? Which relevance categories are applicable and which are not?

2. What information types are present in online product pages? And what information types are absent? Do these vary with the type of product?

METHOD

This is a small pilot study; 16 product cases were collected from Amazon[2]: 5 search products, 6 experience products (3 electronics and 3 traditional goods), and 5 credence products. We used *qualitative content analysis* and pattern matching to conduct in-depth analyses of the information types present from the samples. Many studies using qualitative content analysis look for "themes" (Trochim, 2005), "patterns" (Thompson, 1996), or largely "rhetorical structure" of texts (Kiser, 1997).This

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[2] *Amazon.com, Inc.* is the largest online relaters in the US with annual revenue of $34 billion in 2010. It started as an online bookstore, but soon diversified, selling DVDs, CDs, MP3 downloads, computer software, video games, electronics, apparel, furniture, food, and toys.

study uses qualitative content analysis to specify the function-based topical connections between the product of interest and the product-related information provided.
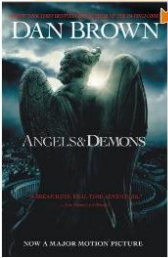
RESULTS AND DISCUSSIONS

Direct Information (Matching Topic)

Matching-topic or direct information in the e-retailing context refers to information that directly describes the characteristics, specifications, functions, and features of the product. It also includes manifestations, samples, and illustrations of the product as shown in the following table. As implemented on Amazon.com, the consumer could listen to a part of an mp3 song online, "look inside" a book by a click, and read its excerpts and key phrase extractions. Illustration is considered direct information as well, such as sample pictures taken by a digital camera the consumer is considering, or how sofa set of interest fits in a home setting.

Direct information answers the questions of *what the product is* and *what it can do.* It provides most relevant and immediate information for the consumer to make judgments of the value and suitability of the product. As expected, direct product information is prevalent and placed at the center of focus for all the collected cases. The following table summarizes specific direct information types with associated case samples.

Direct info type	Examples from the cases
Title/ Product name	
Price	
Color	
Dimensions/ Size	85 x 35 x 17 inches. Approx rise: 8"(20cm). Approx inseam: 32"(81cm). Approx leg opening: 18"(46cm).
Shipping weight	
Length	Pages, duration
Format/ Version	Music-MP3 Download, CD format, Paperback, Paperback (Large Print), Perfect Paperback, Hardcover, Hardcover (Large Print), Hardcover (2009), Audiobook (Abridged), Audiobook (Unabridged), etc.
ID	ISBN, ASIN, Label, UPC
Item model	DMC-FH20K
Language	
Genres	Pop/General
Medium	Paper.
Material	98% cotton/2% spandex.
Parts/ Components	The Hungtinton sectional sofa includes a three-seat sofa, a left/right-reversible chaise, and an oversized ottoman. Crafted with sturdy hardwood legs, the sectional features dark brown faux leather covering over its hardwood frame.
Ingredients	Water, Pentaerythrityl Tetraethylhexanoate,Dimethicone, Glycerin, PPG-15 Stearyl Ether, Stearyl Alcohol, Cetearyl Alcohol, Butylene Glycol, Trisiloxane, Ceteareth-20, Isohexadecane, …
What's in the box	HTC Inspire 4G handset, rechargeable battery, charger, 8 GB SD card, USB cable.
Features/ Capacities/ Functions	

Direct info type	Examples from the cases
Technical details	DMC-FH20K (Panasonic): Optical Sensor Resolution: 14.1 MP; Optical Sensor Technology: CCD; Optical Zoom: 8X; Maximum Aperture Range: F/3.3-5.9; Minimum Focal Length: 5 millimeters; Maximum Focal Length: 40 millimeters; Lens Type: Zoom lens; Optical Sensor Size: 1/2.33"…
Image/ view	
Manifestation/ Sample/ Preview/ Excerpt	
Illustration	Sample pictures taken with DMC-F20K: Bobkona sofa set fitting in a home:

Context Information

Context information does not directly address the specs, features, functions, and performance of the product; instead context supplies information about *its making, its purchase, its use,* and *its relations with other products*. It may not lead to direct judgments about the product's value; however, context information helps to address consumers' additional concerns, set their thinking within a broader and richer background, and thus better inform their decisions. Compared to direct information, context is secondary information and thus its presence and richness are more subject to individual products. For example, the collected traditional experience goods (shoes, jeans, and sofa set) in this study seem to have little context information.

As compared to other information types, context is most interesting and much diversified; it is very inclusive and contains a large variety of manifestations. In the following, different types of context information are exemplified.
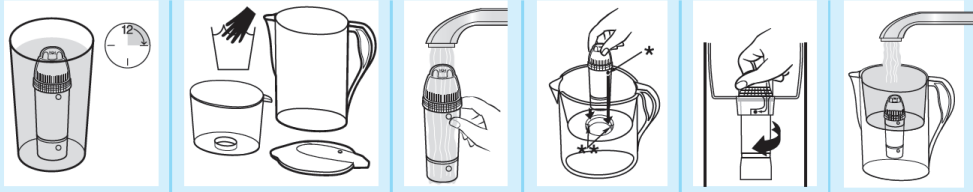
1) *Provenance-related context*: answers the questions of *who made the product, where and how it was made*, as well as *when it was made available*. These types of information can be used to imply the quality of a product and to strengthen the consumer's confidence in the product.

Context type	Examples from the cases
Provenance info	Author, artist, publisher, translator, actor, manufacturer, brand, copyright, etc.
Author	**Dan Brown** is the #1 *New York Times* bestselling author of *The Da Vinci Code* and, previously, *Digital Fortress*, *Deception Point*, and *Angels & Demons*. He is a graduate of Amherst College and Phillips Exeter Academy, where he spent time as an English teacher before turning his efforts to writing full-time. He lives in New England with his wife. Visit the author's website at www.danbrown.com. Discover books, learn about writers, read author blogs › Visit Amazon's Dan Brown Page
Manufacturer	**Klipsch – Power. Detail. Emotion.** Since 1946, proprietary horn-loaded technology has been the driving force behind the Klipsch's highly acclaimed, stunningly precise sound. Superior quality, horn-loaded speakers are an absolute must for delivering the powerful, detailed soundtracks of today's demanding blockbusters. Perhaps that's why 50 percent of all new theaters in North and South America, as well as Korea and Australasia install Klipsch products. Klipsch's ongoing experience in the cinema industry is a significant benefit to you because the cutting-edge research that drives the development of the company's professional theater speakers is also applied to its home theater systems.
Release date	
Made in	Made in China. Imported.

2) *Purchase (selection)-related context:* such as quantity in stock, shipping, promotion, warranty & return policy, and product selection guide. This type of context information helps to develop interest and confidence in the process of purchase.

Context type	Examples from the cases
Selection guide	Size chart, etc. **Need Help Choosing a Cell Phone or Accessory?** Our cell phone experts are here 7 days a week from 7 a.m. to 9 p.m. CST* to help you choose the right 1-866-216-1072 .) *Closed holidays. Call me or dial 1-866-423-5351 . For reference, you are viewing item number: B004KZP3WQ.
Stock	"Only 2 left in stock—order soon"
Shipping	"Free super saver shipping"
Promotion	Special offers, bundle sale/best value **HOT BUY** **Get 30% Off Amazon.com's Price on This Item** Start by choosing the Subscribe & Save option on this Neutrogena product sold by Amazon.com. You'll receive 15% off the Amazon.com price plus free shipping on this item now and on your automated re-orders in the future. Then take another 15% off today's Neutrogena order by using promotional code **NEUTROSR** at checkout for a total savings of 30%. The promotional code offer ends July 10, 2011 at 11:59 p.m. Pacific daylight time. Additional restrictions apply (see details). **Best Value** Buy **The Lost Symbol** and get **The Da Vinci Code** at an **additional 5% off** **Buy Together Today: $19.48** Add both to Cart Show availability and shipping details
Warranty	90-day limited warranty.
Return Policy	

3) *Use-related context:* Provides information related to product use; instructs customers how to use the product safely and care for it. The use-related context allows potential buyers to place themselves in future typical use scenarios, think through some of the potential problems, and use the information to evaluate the product against their own using habits or constraints. For example, for clothing the maintenance work of "Machine wash" vs. "Dry clean" may make a difference in the consumer's choice.

Context type	Examples from the cases
User instruction	**Ex. 1:** Apply nightly to cleansed face and neck. Smooth a pearl-sized amount evenly in gentle massaging strokes until fully absorbed. **Ex. 2:** Take one tablet daily with food. Not formulated for use in children. Do exceed suggested use.
Use scenarios	
Life span	Each filter has a lifespan of about one to two months (or roughly 40 gallons of water). A handy gauge indicates when the filter needs to be replaced.
Safety information	**Safety information:** As with any supplement, if you are pregnant, nursing, or taking medication, consult your doctor before use. Accidental overdose of iron-containing products is a leading cause of fatal poisoning in children under 6. Keep this product out of reach of children.
Maintenance	"Machine wash." "To care for the sectional set, spot clean with a gentle soap and water."

4) *Relations with other products:* Situates the current product within a network of products (such as broader category) and makes recommendations. The primary purpose here is to increase the consumer's *awareness* of a broader product network, so as to induce more interests and expand sales. The category of "Bought together" is a typical Amazon feature based on consumer data mining, which in turn encompasses many kinds: "Frequently bought together", "Customers who bought this item also bought", "What other items do customer buy after viewing this item?", "Consumers also bought this items by", and so on. Apparently there are overlapping results among different "Bought together" algorithms. As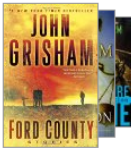 observed, these algorithms bring up similar products (e.g.,), but not always (e.g., ; here it brings up products likely used together). Rather than being measured directly as in *similarity-based comparison* discussed later, the achieved similarities here is simply the by-product (instead of the aim) of customer data analytics. This puts them into the user-based context category rather than the similarity-based comparison category.

Context type	Examples from the cases
Broader scope	Ex.1: From the Album Thriller
	Ex.2: **Tablets at Amazon.com** Visit our Tablet Store for the latest arrivals in tablet computers and essential accessories.
	Ex.3: **Shop for Sofas** See our full selection of sofas in our Furniture & Décor Store. Shop for additional living room furniture such as coffee tables, end tables, armchairs, ottomans, and rugs.
Used by …	Used by other books, adopted as motion pictures, etc.
1)Citations	**Citations** (learn more) 46 books cite this book: The Gospel According to The Da Vinci Code: The Truth Behind the Writings of Dan Brown by Kenneth Boa on 9 pages / Far from the Madding Gerund and Other Dispatches from Language Log by Mark Liberman on 6 pages / Solomon's Builders: Freemasons, Founding Fathers and the Secrets of Washington D.C. by Christopher Hodapp on 5 pages
2)Movie	
Recommendation	Recommended accessories… Amplifier / receiver recommendations… Recommended package:
Bought together	**Frequently Bought Together** **Frequently Bought Together** **Frequently Bought Together**

Customers Who Bought This Item Also Bought   Page 1 of 25

Acer Iconia Tab A500 Protective Case ★★★☆☆ (7) $34.02

Gizmo Dorks Hard Shell EVA Case (Black), HDMI Cable, and USB Cab… $18.99

Gizmo Dorks Neoprene Zipper Sleeve (Black), HDMI Cable, and USB… $15.99

SanDisk 32GB microSDHC Memory Card (Bulk Package) ★★★☆☆ (132) $54.49

What Other Items Do Customers Buy After Viewing This Item?

The Da Vinci Code by Dan Brown Mass Market Paperback
★★★☆☆ (4,019)
$9.99

The Lost Symbol by Dan Brown Mass Market Paperback
★★★☆☆ (2,771)
$9.99

Customers Also Bought Items By

John Grisham   Stieg Larsson

Michael Crichton	Nicholas Sparks	Stephen King
Tom Clancy	David Baldacci	Rick Riordan
Raymond Khoury	Robert Ludlum	C. S. Lewis
James Patterson	J. K. Rowling	Don Brown
Stephenie Meyer	Michael Connelly	Alice Sebold
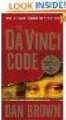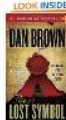
Condition Information

Following the generic typology, the information about compatibility and system requirements falls into the category of *Condition–Helping or hindering factor (condition)*. Similar to context information discussed above, it also assists the customer in making better informed decisions. In the original topical relevance typology, the category of *Condition* was included in *Context* but was later separated out to emphasize its higher degree of specificity (such as in clinical analysis). However, in the current e-retailing context, it is arguable whether there is enough justification to differentiate *Condition* from *Context*. The collected cases in this pilot supply very limited instances and more data are required for us to draw the final conclusion. Speaking solely for the following two condition information types, they may well fit into the category of use-related context.

Condition type	Examples from the cases
Compatible with	**Ex.1:** Compatible with MP3 Players (including with iPod), iTunes, Windows Media Player. **Ex.2:** Compatible with Windowns 7.
Requirement	**Ex.1:** 1 Lithium ion battery required. (included) **Ex.2:** **System Requirements:** • Windows® 7/Windows Vista®/Windows XP • or Mac OS X v10.4-10.6x • USB 2.0 • 2 AAA batteries (included) **Ex.3:** **AT&T 4G Network** This phone runs on AT&T's dual-band 850/1900 MHz 4G network (UMTS/HSDPA/HSPA+), and with HSPA+ you'll experience mobile data speeds up to 4x faster than ordinary mobile broadband--up to approximately 6 Mbps (download). AT&T has deployed HSPA+ to virtually 100 percent of its mobile broadband network, which enables 4G speeds when combined with enhanced backhaul (via Ethernet or fiber).

Comparison Information

This category emphasizes the element of comparison and provides similarity-based options. Just as *Relations with other products* (context), its purpose is also to deliberately broaden consumers' horizon of products and enhance their awareness and interests of related products. Just like the "Bought together", Amazon.com uses various types of algorithms to detect and calculate similarities between products, such as "by category", "by subject (topic)", "by the same author", and so on.

Comparison type	Examples from the cases
Same product by other supplier	**12 new** from $135.00 **11 used** from $123.99 **8 refurbished** from $100.87 **15 new** from $2.21 **92 used** from $0.70 **1 collectible** from $79.99
Similar options	Used book option, different format option

Formats	Amazon Price	New from	Used from
⊞ Hardcover, Bargain Price	$14.00	$9.44	$3.23
⊞ Paperback, Bargain Price	$6.40	$0.50	$0.43
Paperback, Bargain Price, March 31, 2009	$6.40	$2.21	$0.70
⊞ Mass Market Paperback	$9.99	$1.19	$0.01
⊞ Audio, CD, Abridged, Audiobook	$11.69	$4.83	$4.83
⊞ Unknown Binding	--	$13.50	$3.24

Comparison type	Examples from the cases
Similar products	by category, by subject (topic), by author,

Look for Similar Items by Category

Books > Computers & Internet > Programming > Graphics & Multimedia
Books > Computers & Internet > Programming > Languages & Tools
Books > Computers & Internet > Software

Look for Similar Items by Subject

Search **Books** by subject:
☐ Computer Books: General
☐ Computers - Other Applications
☐ Computers
☐ Computers / Mathematical & Statistical Software

Looking for "mathematica" Products?

Other customers suggested these items:

A New Kind of Science by Stephen Wolfram
★★★☆☆ (341)
$33.20
Suggested by 11 customers

Mathematica®: A Problem-Centered Approach (Springer Undergraduate Mathematics Series) by Roozbeh Hazrat
★★★★☆ (2)
$34.09

Mathematica DeMYSTiFied by Jim Hoste
★★★★☆ (8)
$16.30
Suggested by 8 customers

More from Dan Brown

The Da Vinci Code by Dan Brown
★★★☆☆ (4,020)
$9.99

The Lost Symbol by Dan Brown
★★★☆☆ (2,771)
$9.99

Deception Point by Dan Brown
★★★☆☆ (799)
$9.99

Digital Fortress: A Thriller by Dan Brown
★★★☆☆ (1,023)
$9.99

So You'd Like to...

read something ORIGINAL!: A guide by Reynolds ⌄

Men, read a "Series": A guide by Judith Schonhoff "Judy" ⌄

Read a Bombshell Story: A guide by Georgeanne Steinbergen ⌄

Evaluation Information

A great number of studies have confirmed that consumers are highly dependent on the product-oriented user evaluation on the web, even though they might not always follow these reviewers' opinions and suggestions (Sen & Lerman, 2007; Senecal & Nantel, 2004). Moreover, positive reviews seem to have a stronger influence on the consumer than negative reviews do (Vermeulen & Seegers, 2009). Coming from a source of neutrality and user perspective, customer evaluation is regarded more reliable, unbiased and informative compared to the information supplied directly by the seller. The reviews on Amazon.com are highly detailed and organized, covering many aspects of the product. It will be interesting to further investigate whether different types of evaluation information affect consumer decision making differently, for instance, does the source of evaluation make a difference, i.e., customer reviews vs. expert reviews? What about ranking information? Note: For simplicity, we have placed customer reviews and expert reviews here because they are most important for the evaluative information they contain. However, reviews also give many other types of information, such as tips on how to use a product.

Evaluation type	Examples from the cases
Ranking	**Amazon Bestsellers Rank:** #61 in Cell Phones & Accessories (See Top 100 in Cell Phones & Accessories)
Customer reviews	★★★★☆ ☑ (355 customer reviews)
Expert reviews	Editorial reviews, critic's evaluation "From Publishers Weekly" **What Critics Are Saying About the Klipsch HD Theater 500** "The highs are perfectly detailed, the mids are smooth and punchy, and the low-end is bold, precise and powerful. If you're a movie and music lover, you can rest assured the HD Theater 500 will easily handle both. [...] it simply fills the room with beautiful sound. Explosions were no problem for the 8-inch sub, gunfire was sharp and potent and voices were silky smooth." -Darren Murph, Engadget.com "Dialogue remained clear even as bombs exploded and heavy gunfire ricocheted off the surround speaker channels. The complete HD Theater 500 system conjured an excellent sense of ambiance [...]. [...] Bass performance was punchy and potent, but never flirted with a bloaty or boomy sound." -Steve Guttenberg, CNET.com "After an easy setup, we cranked up tunes ranging from punk rock to classical jazz. Virtually every genre of music we tossed at the system had clear tonal balance, distinct separation, and plenty of window rattling bass. However, it was when we started screening films that these noisemakers really shined." Rachel Cericola, Wired.com
Like	👍 Like (33)
Standard	Dolby Mobile 4G
Formal evaluation	

CONCLUSIONS

Making online purchase decisions is a process combining quality/price evaluation and relevance judgment. Consumers need to find out not only the quality but also the relevance of the product to their personalized needs and requirements. Applying

the function-based topical relevance typology to analyze online product-relevant information provides a basis for us to further discuss how different types of information contribute to this evaluation and judgment process.

Through this pilot study, *direct (matching topic), context (*combining *condition), evaluation*, and *comparison* are identified as the four most applicable and prevalent information types from Amazon product pages. The more argument-linked and reasoning-centered information types such as *evidence* and *cause/effect*, and *purpose/motivation* are not noticeably significant from the analysis. However, this may be due to the small sample gathered from a single source (Amazon.com). As guided by this pilot analysis, more cases will be collected from different sites in US as well as in China to allow more systematic comparison between product types in relation to cultural contexts.

The focus or role of each information type is summarized in the following:

- **Direct (matching topic):** answer the questions of what the product is and what it can do;

- **Context:** supply additional information related to its making, its purchase and selection, its use, and its position in the product network;

- **Comparison:** identify similarity-based products and options; here *similarity* is broadly defined and has many meanings, such as, common feature, shared use context, same brand/manufacturer, etc.

- **Evaluation:** answer the question of how well it performs.

The in-depth analysis also extends and enriches the original function-based typology by introducing new sub-categories. Another finding is that a lot of site features and provided information serve the same purpose of introducing other related products. In many cases, these features and information occupy over 50% of the entire product page. The intention is clear but what are the effects on consumers' buying is yet to be discovered. Instead, with the potential risk of information overload, does the extra information further distract the consumer from making focused comparison and decision?

The presence and richness of individual information types seem to vary largely with the type of product, for instance, electronics in general have more detailed accounts than clothing, shoes, and furniture. From our observation, it cannot be directly attributed to the search-experience-credence differences; instead, whether or not the critical features of the product can be evaluated digitally seems to play a more significant role. For example, the critical features of a dress are much more difficult to be digitized than those of a book. As presented at e-storefronts, the distinction between search product and experience product need to be revisited and refined.

Our ultimate research goal is to systematically investigate and compare the effects of various types of product-relevant information on the online consumer decision-making process. We first apply a function-based topical information typology (Huang, 2009) to guide the systematic categorization of online product information and thus enable a focused comparison between different information types. The findings will provide a basis for prioritized information provisioning and organization which helps to remedy the pressing issue of information overload in e-retailing especially with small-screen mobile devices. Since the information type preferred for making online buying decisions significantly varies with the product type, retailers need to customize their strategy of information provision and organization to different types of products (Girard et al., 2002). For example, on the one hand, internet retailers could focus on direct information for selling search products and be more selective about providing other types of information. On the other hand, they want to intentionally offer more comparison, evaluation, and review information to complement standard product description, so as to "motivate consumers to purchase the difficult-to-sell products online" (Girard et al., 2002). To combat information overload in e-commerce, simply limiting the absolute amount of product information is not enough; and it can also be problematic since limited information might in fact compromise consumers' capability of making fully informed decisions. A more promising strategy will be better designing, prioritizing, organizing, and tailoring the product-related information to assist online shoppers to *fully* compare and evaluate products of interest and make well-informed purchases.

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