

Independent Study: Web 2.0 & the E-commerce environment

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Overview

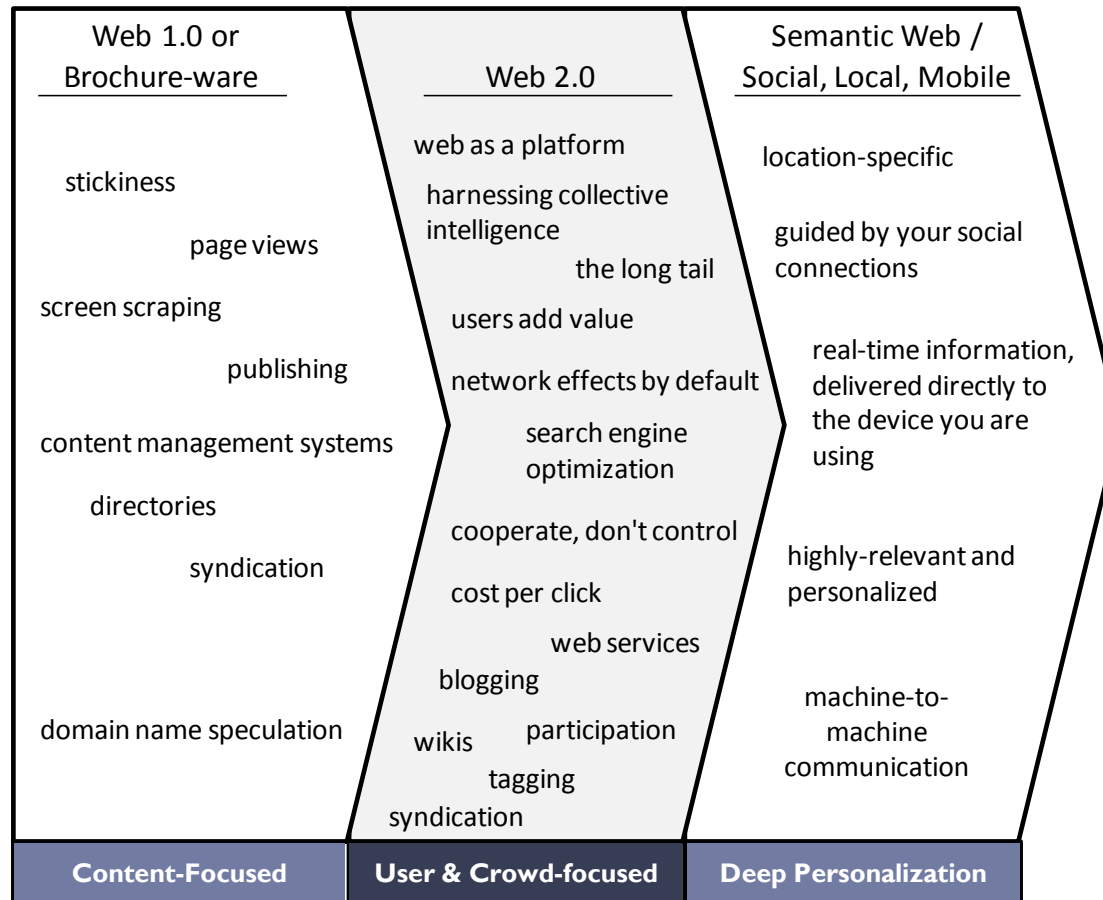
- ▶ Each firm's technology adoption S-curve for Web 2.0 differs due to intrinsic, internal and external factors
- ▶ Not all Web 2.0 technology & features are à la carte
- ▶ Travel sites are relatively advanced, Apparel must build foundations
- ▶ New innovations will drive value for e-commerce retailers only if they meet specific criteria

Conditions of Study

- ▶ Web 2.0 technology has redefined the customer experience in e-commerce, creating large performance advantages over brick and mortar
- ▶ E-commerce players have adopted Web 2.0 technologies at differing paces
- ▶ E-commerce is a hyper-competitive environment, primarily due to:
 - ▶ low barriers of entry
 - ▶ small capital investment requirements
 - ▶ small size hurdle required to create a sustainably profitable position

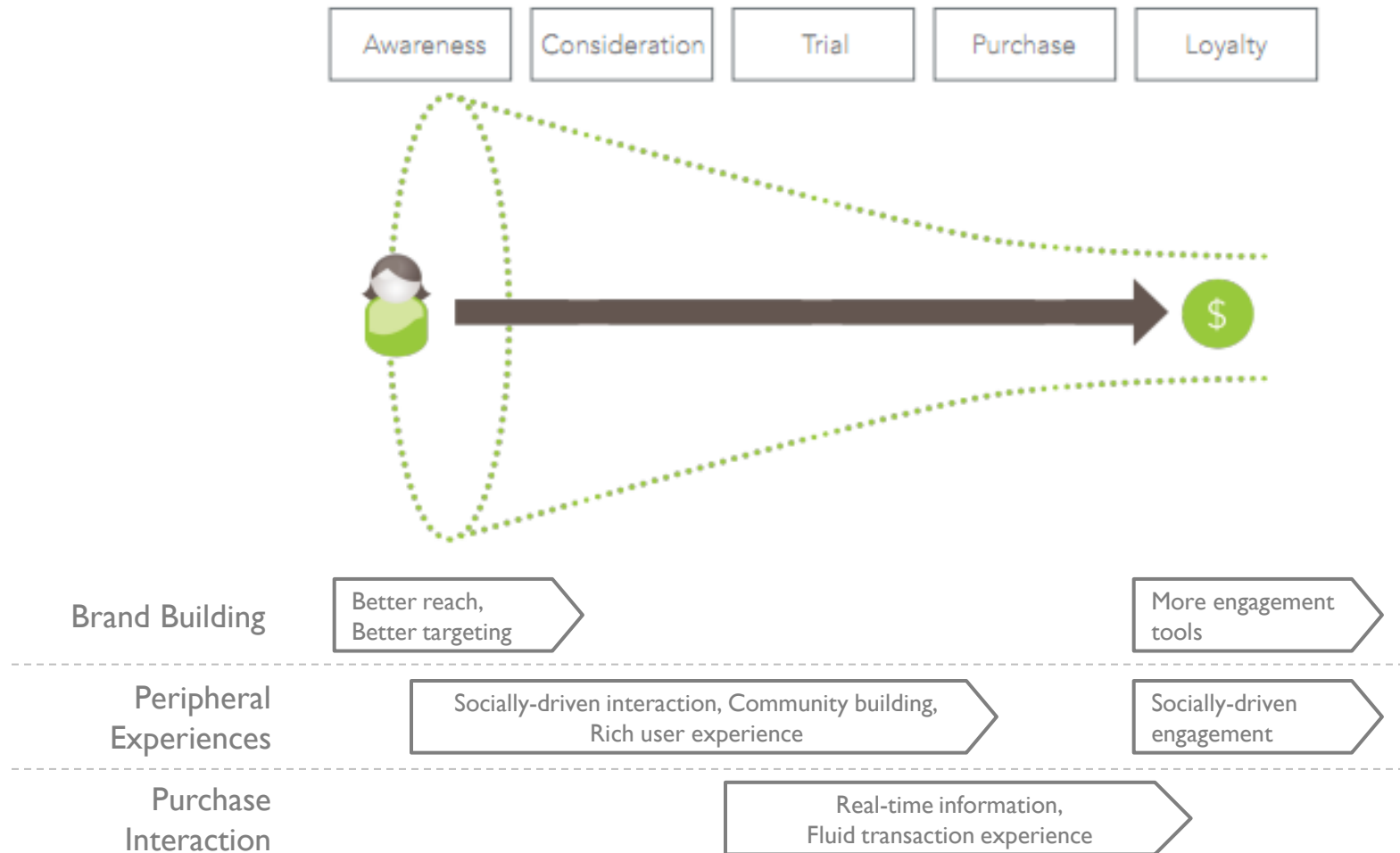
The principles and terminology of Web technology that has defined each generation

Terminology across Web Development Generations



Source: What is Web 2.0. Tim O'Reilly. <http://oreilly.com/pub/a/web2/archive/what-is-web-20.html?page=1>.
 Different Approaches to the Semantic Web. Tim O'Reilly. <http://radar.oreilly.com/archives/2007/09/economist-confu.html>.

Web 2.0 has had a drastic effect on firms' capabilities within the marketing funnel

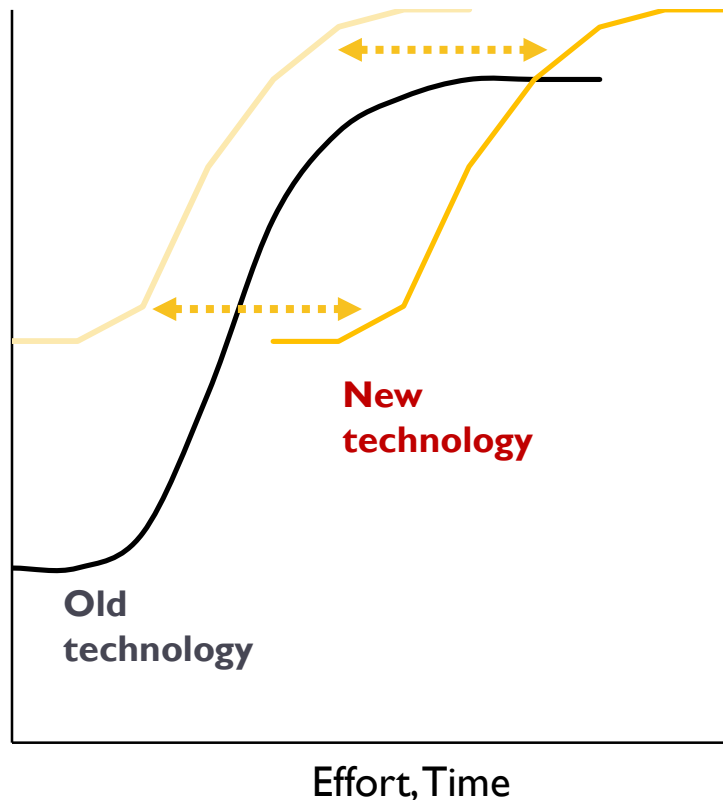


Source: The Digital Shopping experience: Today's Emerging Features are Tomorrow's Experiential Essentials. September 2008. Shop.org.

Factors in Innovation Adoption

Each firm's technology adoption S-curve for Web 2.0 differs

Performance



Factors in determining technology's s-curve

- ▶ Intrinsic
 - ▶ Desired level of interaction & engagement for your product type
 - ▶ Desired level of interaction & engagement with your brand
- ▶ Internal
 - ▶ Position in value chain and involvement in customer interaction
 - ▶ Firm capabilities, resource & knowledge
 - ▶ Firm's web foundation
 - ▶ Firm's strategy, organic vs. inorganic growth
- ▶ External
 - ▶ Competing opportunities, such as market extensions
 - ▶ Threats from startups, other firms

Sources: Innovation Ecosystems and the Pace of Substitution: Re-examining Technology S Curves. Ron Adner and Rahul Kapoor. June 2010.

Customer Power, Strategic Investment, and the Failure of Leading Firms. Clayton Christensen and Joseph Bower. March 1996. Strategic Management Journal.

The desired level of interaction with your product is determined by its type

		Product	
		Unique	Commodity
Inventory Turnover	Fast	<p>Moderate Interaction – low depth, but viral and real-time</p> <p><i>Examples: Flash Sales, Discount Deals, Fast Fashion</i></p>	<p>Low Interaction – no depth, high value for repeat customers</p> <p><i>Examples: Flights</i></p>
	Slow	<p>High Interaction – high depth, high value</p> <p><i>Examples: Traditional Fashion Collections, High-end Accommodations</i></p>	<p>Moderate Interaction – some depth, moderate value for both new and repeat customers</p> <p><i>Examples: Value / Budget Accommodations, Car Rentals</i></p>

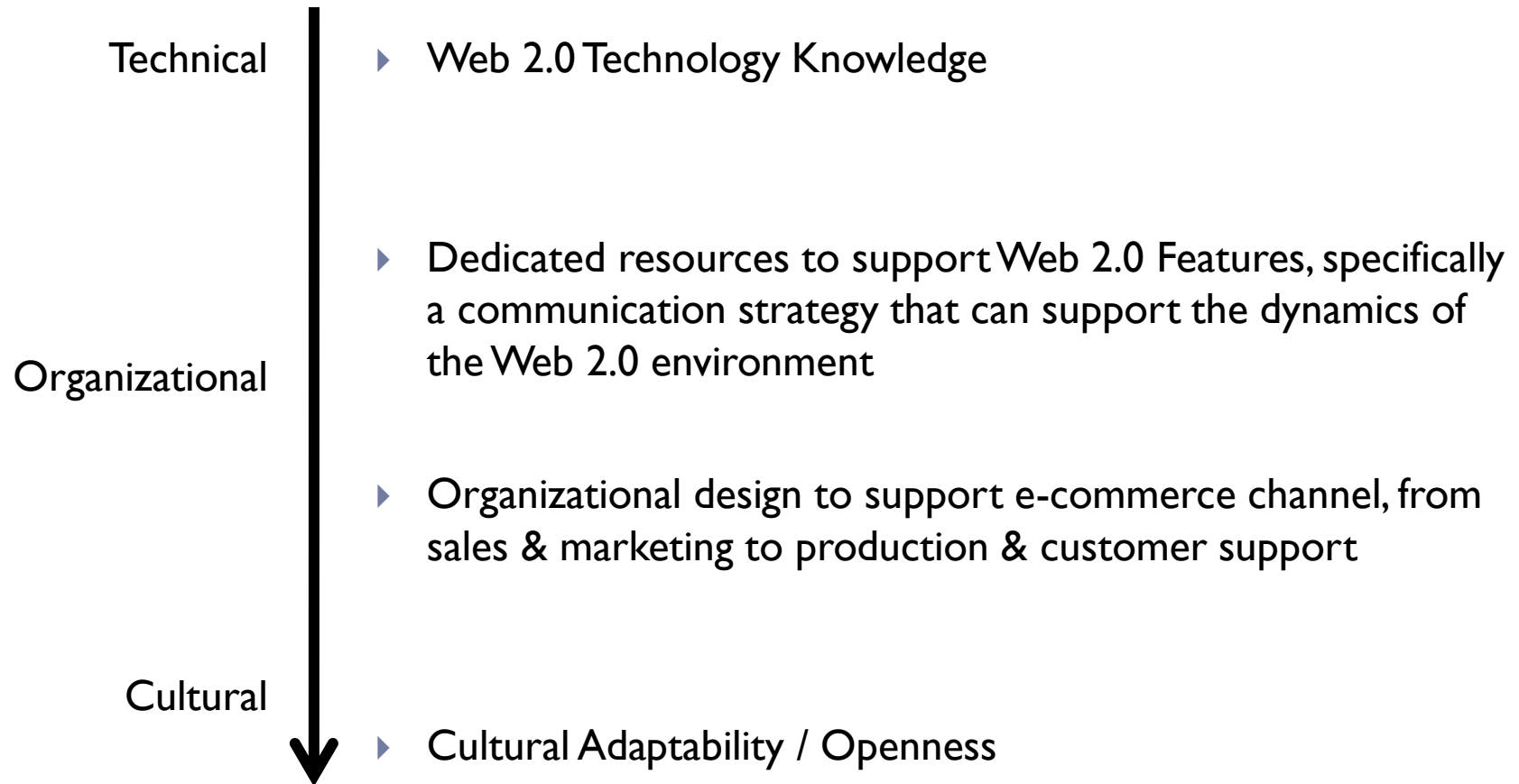
The desired level of interaction with your brand is tied to your brand resonance

		Relationship Intensity	
		Low	High
Activity Intensity	High	<p>Moderate Interaction & Resonance - Brands can drive interaction with event or promotion-focus</p> <p><i>Examples: Gap, Marriott</i></p>	<p>High Interaction & Resonance – Brands interaction can build on the values and identity of brand and participate in the evolution and growth of the brand</p> <p><i>Examples: Southwest, Gilt Groupe</i></p>
	Low	<p>Low Interaction & Resonance – Brands need to build awareness and personality before interaction will drive value</p> <p><i>Examples: Alaska Airlines, Air Tran</i></p>	<p>Moderate Interaction & Resonance – Brands interaction can be built on top of the values, with interaction and community transcending the brand</p> <p><i>Examples: Gucci, Ritz Carlton</i></p>

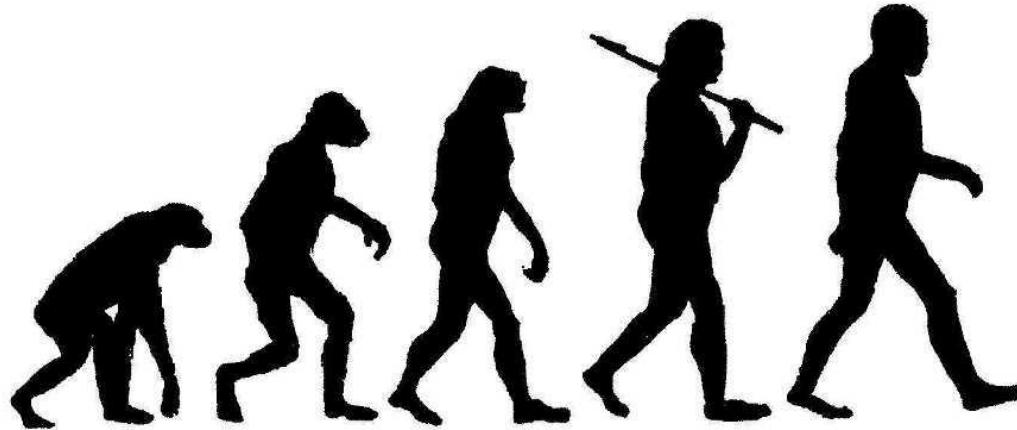
Value chain position and customer interaction affects utility of Web 2.0 tech

<p>OEMs</p>	<p>OEMs Interaction Map</p> <p>The diagram illustrates the OEM's value chain. On the left, 'Production' includes 'Product/Service' and 'Brand', which are grouped as 'Components'. These lead to the 'Producer (OEM)'. On the right, 'Consumption' includes 'Purchase Interaction' and 'Peripheral Experience (pre/post)', which are grouped as 'Complements'. These lead to the 'Customer'. A dashed line labeled 'Feedback Loop' connects the Customer back to the Producer.</p>	<p>Prioritized Interaction Points:</p> <ol style="list-style-type: none"> 1. Product / Service 2. Brand 3. Purchase 4. Peripheral Experiences 	<ul style="list-style-type: none"> • Prioritization is made to investments in product / service & brand • Vertical integration allows control over customer experience
<p>Resellers</p>	<p>Resellers Interaction Map</p> <p>The diagram illustrates the Reseller's value chain. On the left, 'Production' includes 'Product/Service' and 'Brand', which are grouped as 'Components'. These lead to the 'Producer (OEM)'. On the right, 'Consumption' includes 'Purchase Interaction' and 'Peripheral Experience (pre/post)', which are grouped as 'Complements'. These lead to the 'Customer'. A dashed line labeled 'Feedback Loop' connects the Customer back to the Producer. In the center, 'Aggregation' includes 'Reseller', 'Inventory', and 'Brand', which are grouped as 'Complements'. These lead to the 'Customer'.</p>	<p>Prioritized Interaction Points:</p> <ol style="list-style-type: none"> 1. Inventory 2. Brand 3. Purchase 4. Peripheral Experiences 	<ul style="list-style-type: none"> • Prioritization is made to investments in inventory, brand, purchase and peripheral experiences • Reseller perspective allows them to leverage advantage in cheaper cost to build inventory, and ability to build and brand and peripheral experiences across producers & resellers
<p>Aggregators</p>	<p>Aggregators Interaction Map</p> <p>The diagram illustrates the Aggregator's value chain. On the left, 'Production' includes 'Product/Service' and 'Brand', which are grouped as 'Components'. These lead to the 'Producer (OEM)'. On the right, 'Consumption' includes 'Purchase Interaction' and 'Peripheral Experience (pre/post)', which are grouped as 'Complements'. These lead to the 'Customer'. A dashed line labeled 'Feedback Loop' connects the Customer back to the Producer. In the center, 'Aggregation' includes 'Aggregator', 'Inventory', and 'Brand', which are grouped as 'Complements'. These lead to the 'Customer'.</p>	<p>Prioritized Interaction Points:</p> <ol style="list-style-type: none"> 1. Inventory 2. Brand 3. Peripheral Experiences 	<ul style="list-style-type: none"> • Prioritization is made to investments in inventory, brand, purchase and peripheral experiences • Aggregator perspective allows them to leverage cheaper cost to build inventory, and specialization in peripheral experiences across producers & resellers

Technical and cultural capabilities impact a firm's ability to execute innovation



Technology is evolutionary, so you must start first with the right foundation



- ▶ Feature's and interactions are developed in an evolution
- ▶ Technology is deployed in a stack, consisting of:
 - ▶ operating system (e.g. Linux)
 - ▶ database software (e.g. Apache)
 - ▶ web server (e.g. MySQL)
 - ▶ Right mix of web programming languages (e.g. XHTML + CSS, Doc Obj Model, XML, XMLHttpRequest, & Javascript, PHP, Perl or Python)

A firm's strategy determines its focus and the issues it faces

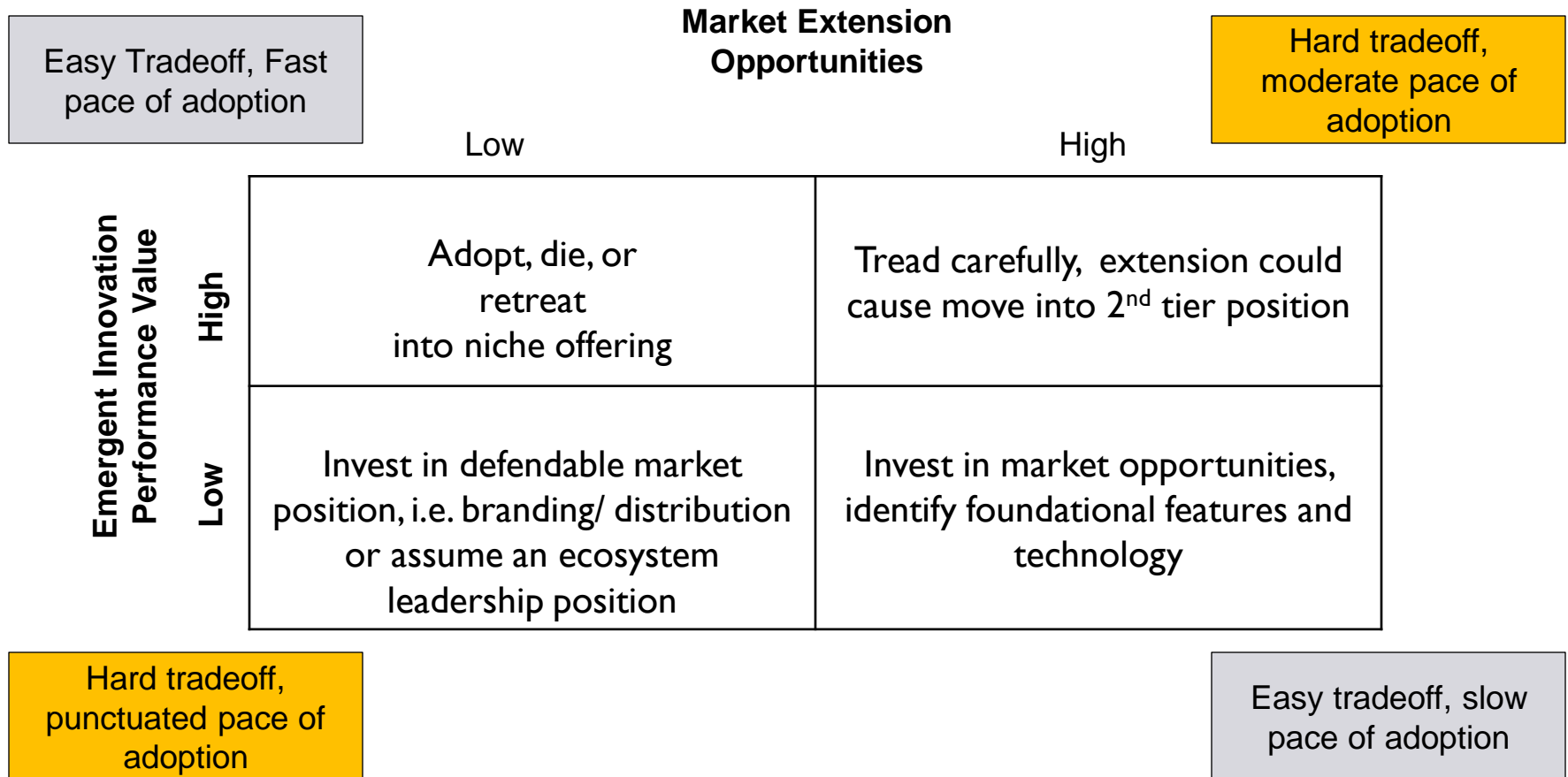
Organic – marketing & product centric

- ▶ Scalability of current platform / business model
- ▶ Friction of current features
- ▶ Core demographic limitations

Inorganic – acquisition centric

- ▶ Integration issues, both technological and customer-facing
- ▶ Integration advantages, such as getting value out of network effect

Market extension opportunities provide a tradeoff to adoption of new technology



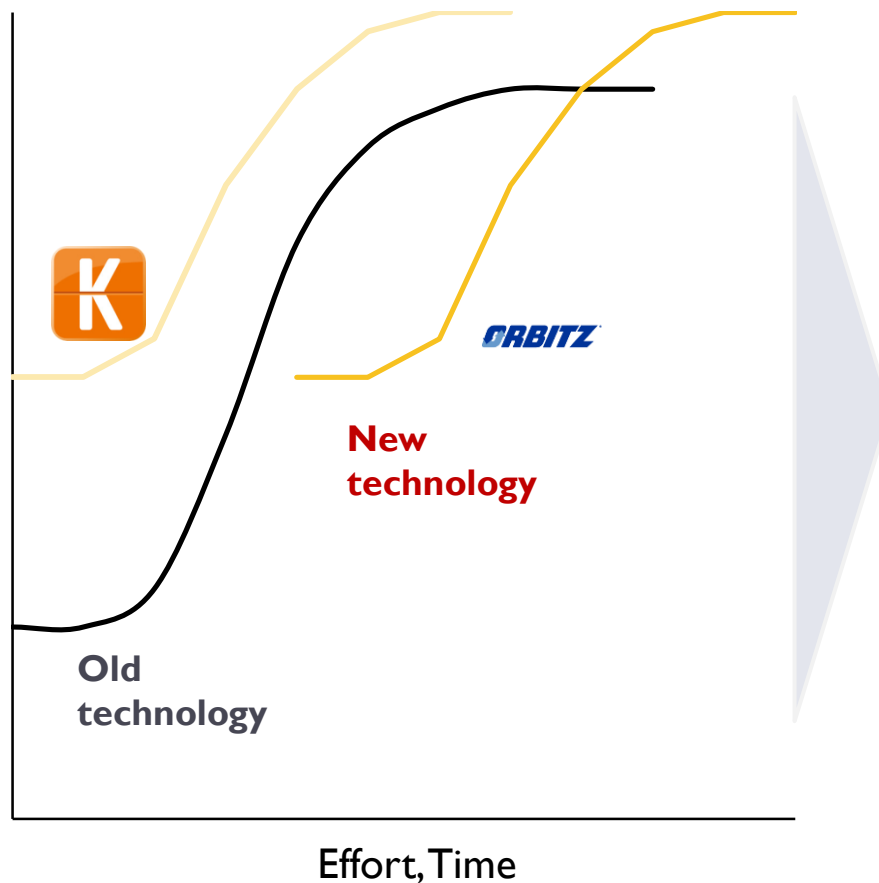
Source: Innovation Ecosystems and the Pace of Substitution: Re-examining Technology S Curves. Ron Adner and Rahul Kapoor. June 2010.

Competitive threats are large when you are large

- ▶ Strong market positions in large markets built on momentary or reproducible assets (i.e. travel search UI), are ripe for startups, venture investment
- ▶ E-commerce categories are highly fragmented, market share is won quickly and lost slowly
- ▶ Each computing cycle has seen even the largest market leaders fall and the smallest startups replace them

Kayak took over flight search for Orbitz with better technology

Performance



▶ Technology

- ▶ Kayak is designed with rich Internet application architecture, the first travel search site to do so
- ▶ Kayak scours more than 100 Web sites continually
- ▶ Kayak provides a more exhaustive search, including the inventory of 551 airlines and 91,500 hotels

▶ Pricing

- ▶ Orbitz, which takes a percentage of the sale, about \$20 per flight or \$35 per hotel room
- ▶ Kayak, on average, makes 17 cents per visit

▶ Results

- ▶ Kayak built a 5.5 million unique monthly user base from 2005 – 2010
- ▶ Orbitz now pays Kayak \$28 Million in fees (~50% of their net loss)

Sources: Struggling Upstream. Forbes.com. Megan Johnston. November 2005. , Kayak.com Travel Search Engine Announces Plans for IPO. Travepulse.com. November 2010.

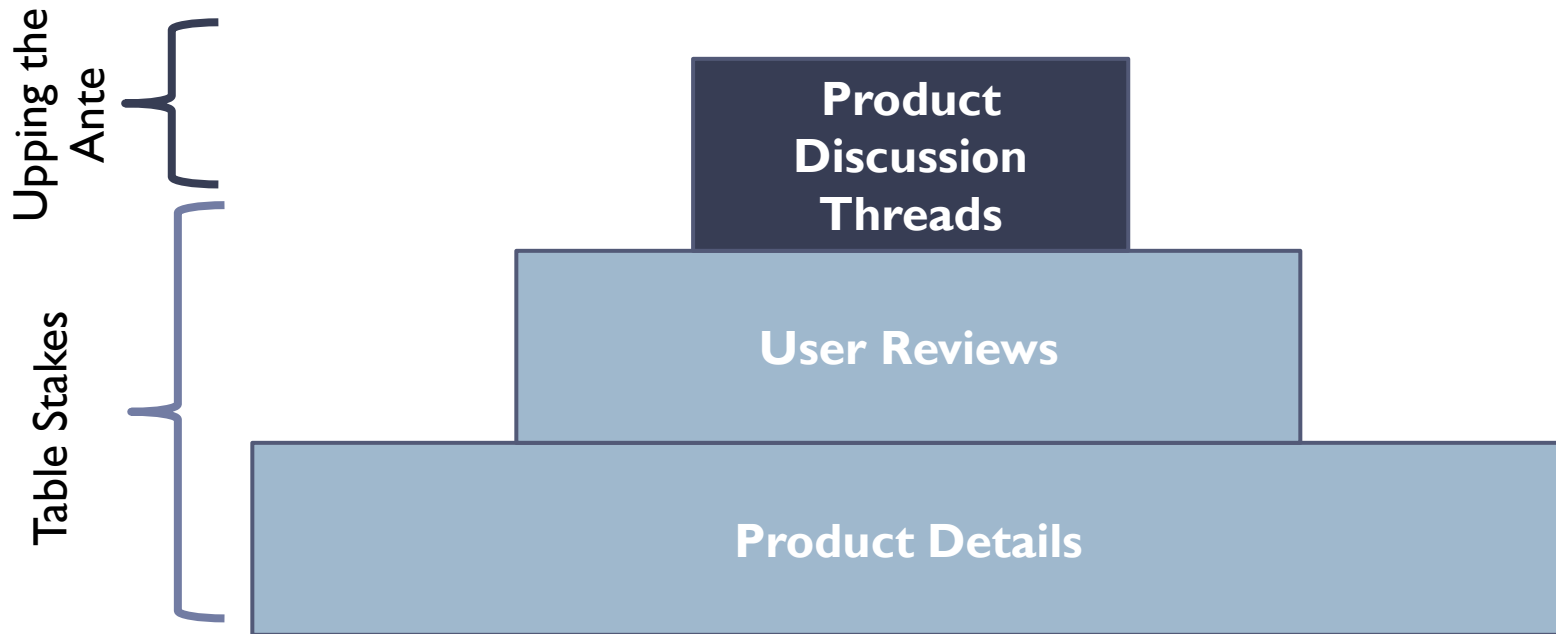
Empirical Study of E-Commerce Product Roadmaps

Empirical Research

		Non-OEMs		
		OEMs	Resellers	Aggregators
Apparel		 		
		 	 	 
Travel		   	  	 

Not all features are à la carte.

- ▶ Basic features are needed in many cases for ecommerce platforms to implement advanced features effectively.

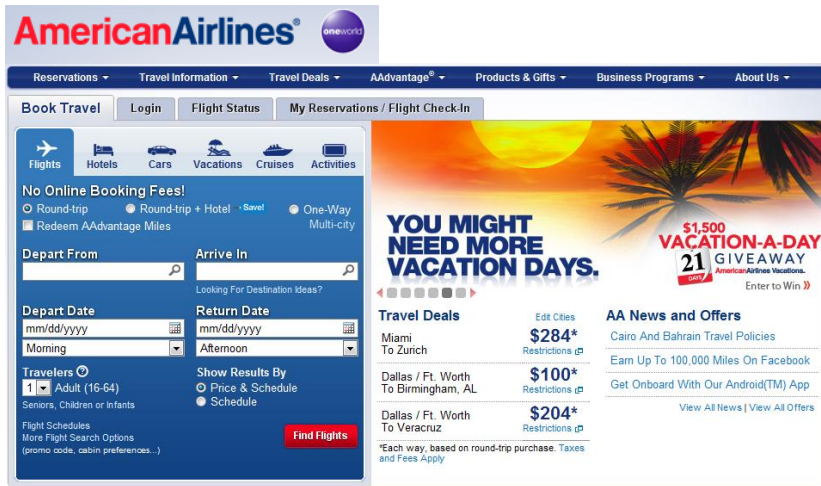


Travel sites are relatively advanced

Travel

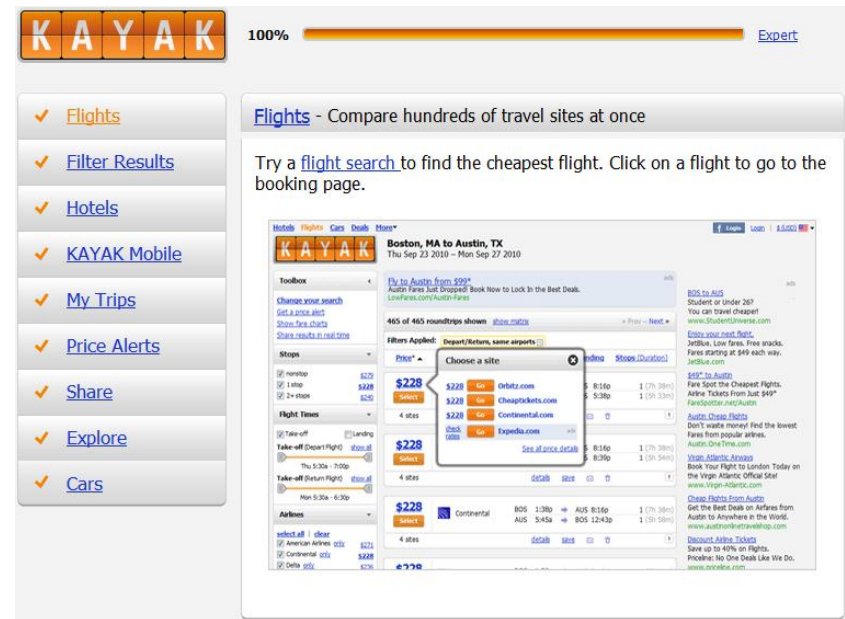
	OEM	Non-OEM
Table Stakes	• Mobile Reservation Info	Mobile Reservation Info
	• Booking Centered UI	Booking Centered UI
	• Current Discounts and Packages	Destination/Experience User Reviews
	• Customer Service Resources	Price Alerts
	• Basic Search Filters	Advanced/Flexible Search Filters
Upping the Ante	• Strategic Social Media Use	Strategic Social Media Use
	• Fully-Functional Mobile App	Fully-Functional Mobile App
	• Optimized UI	Price Tracking
	• Price Alerts and Personal Deals	Personalized Travel Suggestions
	• Flexible Filters	“Explore” Feature

American Airlines vs. Kayak



- Mobile Reservation Info
- Booking Centered UI
- Current Discounts and Packages
- Customer Service Resources
- Basic Search Filters

- Strategic Social Media Use
- Fully-Functional Mobile App
- Price Tracking
- “Explore” Feature



Apparel Must Build Foundations

Apparel

	OEM	Non-OEM
Table Stakes	• Basic Product Information	In-depth Product Details
	• Physical Store Locator	User Reviews
	• Style Look Book	Multiple Navigation Structures
	• Up-to-date Promotions	Current Inventory
	• Current Product Catalog	Streamlined Checkout
Upping the Ante	• On-Model Product Imagery	Extensive Product Imagery
	• User Reviews/Content	Social Shopping Experience
	• Curated Content/Style Selections	Social Product Design
	• Mobile Platform (exp. catalog)	Mobile Platform (ordering)
	• Strategic Social Media Use	Strategic Social Media Use

EMS vs Backcountry.com

Eastern Mountain Sports website search results for "hiking backpack". The page features a navigation bar with categories like Men's, Women's, Kids, Footwear, Camp/Hike, Climb, Bike, Kayak, Snowsports, Travel, Accessories, and Outlet. A search bar at the top right contains the text "SEARCH:". Below the navigation bar, a banner reads "FINAL WINTER CLEARANCE! GET AN EXTRA 20% OFF" and "FREE Standard Shipping on all orders over \$125". The search results section shows "SEARCH RESULTS" and "REFINE SEARCH RESULTS". A search bar indicates "We found 282 results for 'HIKING BACKPACK'". Below this, there are filters for CATEGORY (Camp/Hike, Climb, Footwear, Kids, Men's, Outlet) and BRAND (Asolo, Black Diamond, CamelBak, Columbia, Dakine, Eastern Mountain Sports, Garmont). Four product cards are displayed, each with an image, title, price, and rating.



Basic Browsing Interface
User Reviews
Search Results?!!

Backcountry.com website search results for "hiking backpack". The page features a navigation bar with categories like OUTLET, GIFT CARDS, WISH LISTS, FIELD TESTS, LEADERBOARD, and BLOG. A search bar at the top right contains the text "SEARCH:". Below the navigation bar, a banner reads "626 Search Results for hiking backpack". The search results section shows "SEARCH RESULTS" and "REFINE SEARCH RESULTS". A search bar indicates "We found 626 results for 'HIKING BACKPACK'". Below this, there are filters for RELATED (Hiking & Camping Gear, Ski, Climb, Snowboard, Travel, Kids, Trail Run, Paddle, Shoes, Women's Clothing, Men's Clothing), GENDER (Men, Women, Kids, Unisex), SALE (Currently On Sale), PRICE (0 to 800), and SELECT BRANDS (Adventure Medical, Arcteryx, Backcountry Access, Billabong, Black Diamond, Burton, CamelBak, CAMP USA, Charot Carriers, Chrome). Four product cards are displayed, each with an image, title, price, and rating.

Strategic Social Media (email vs Twitter)
Extensive Product Imagery
Social Shopping: "Just added to cart"
Mobile Platform
Creative Filters
Genuine User Community



Proposed Check-list for E-commerce players

New innovations will drive value for e-commerce firms if they meet specific criteria

Intrinsic	Internal	External
<input checked="" type="checkbox"/> Meets specific customer need <ul style="list-style-type: none"> • Lowers barriers to adoption • Improves customer experience 	<input checked="" type="checkbox"/> Enhances value in priority interaction point (driven by position in value chain)	<input checked="" type="checkbox"/> Generates more value than other extension opportunities
<input checked="" type="checkbox"/> Enhances interaction around product, brand and/or solution	<input checked="" type="checkbox"/> Possess internal capabilities to execute and support feature	<input checked="" type="checkbox"/> Puts at par with competition (and being at par is necessary)
	<input checked="" type="checkbox"/> Supports growth strategy (organic vs. inorganic)	
	<input checked="" type="checkbox"/> Have foundational elements in place to make feature effective	

Understanding customer needs and performance relative to expectations will allow e-commerce players to identify and prioritize innovation initiatives and feature implementation