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Information Accessed or Information Available? The Impact on Consumer Preferences Inferred at a Durable Product E-commerce Website☆

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Abstract

Most previous choice modeling research infers preferences by assuming that consumers consider all the information available at the point-of-purchase. Because e-commerce sites increasingly incorporate tracking technologies that can monitor consumer behavior on their site, our research studies how incorporating the information accessed by consumers into a choice model impacts model performance and inferred preferences. We use data from an electronic goods manufacturer that monitored the attribute information accessed by 582 shoppers while they made Customize and Buy decisions at the firm's website. We find that incorporating the information *accessed* by consumers into the choice model provides more valid estimates of attribute preferences and better fitting choice models than models based on information *available*. Because firms can easily obtain this type of information as a by-product of their online operations, we propose that managers who monitor information acquisition and apply the information accessed model will have a useful methodology to gain a better understanding of consumer preferences.

Keywords: Multi-attribute models; Consumer choice; Revealed preferences; Electronic commerce

Introduction

Imagine that the manager of the Kindle product line at Amazon wants to gain a better understanding of customer preferences with a view of making better product design, pricing, advertising, and targeting decisions. She is aware that there are hundreds of shoppers from all over the world at the Amazon website at any point of time considering various Kindle configurations presented in the form of a comparison chart with information on a variety of attributes such as price, connectivity, content, display, and battery life, as shown in Fig. 1. She has the ability to follow the clickstream of potential shoppers up to the point that they make a purchase decision, and wants to use the observed choices to obtain insights about consumer preferences for different attributes and alternatives.

An obvious way of achieving this objective is via a choice model that incorporates all the attribute information available in the comparison chart at the point-of-purchase as is common in the choice modeling literature. However, extensive laboratory research has shown that consumers typically do not access all information at the point-of-purchase due to search costs, information overload, prior knowledge, or heuristic-based shopping. Therefore, with 7 different Kindle configurations and 11 different attributes, she expects that shoppers may not pay attention to all of the available attribute data for all alternatives and wonders whether and how much the choice model's performance and diagnostics would improve if it incorporated the specific cells that a shopper actually looked at.

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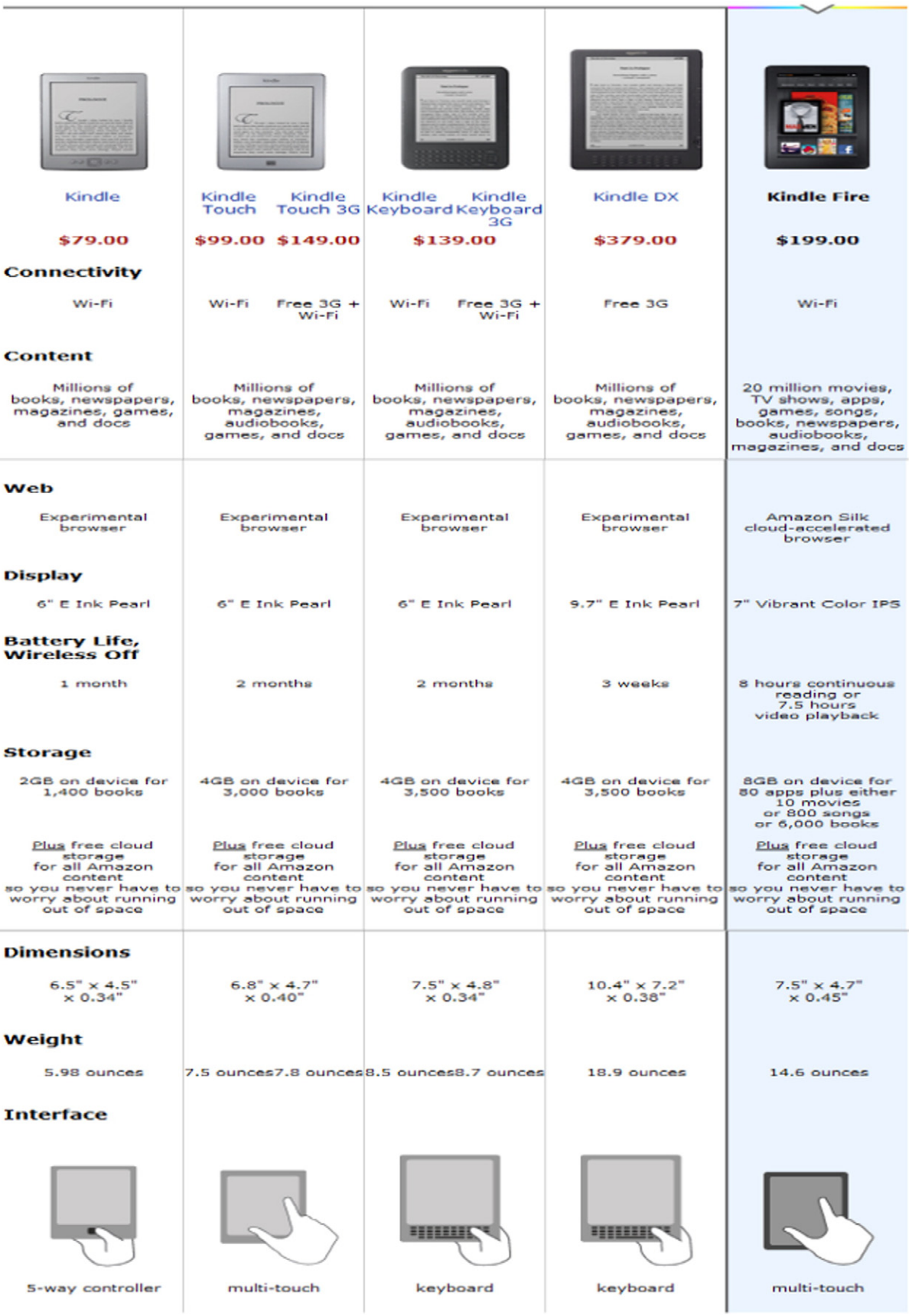

	Kindle	Kindle Touch	Kindle Touch 3G	Kindle Keyboard	Kindle Keyboard 3G	Kindle DX	Kindle Fire
	$79.00	$99.00	$149.00	$139.00		$379.00	$199.00
Connectivity							
	Wi-Fi	Wi-Fi	Free 3G + Wi-Fi	Wi-Fi	Free 3G + Wi-Fi	Free 3G	Wi-Fi
Content							
	Millions of books, newspapers, magazines, games, and docs	Millions of books, newspapers, magazines, audiobooks, games, and docs		Millions of books, newspapers, magazines, audiobooks, games, and docs		Millions of books, newspapers, magazines, audiobooks, games, and docs	20 million movies, TV shows, apps, games, songs, books, newspapers, audiobooks, magazines, and docs
Web							
	Experimental browser	Experimental browser		Experimental browser		Experimental browser	Amazon Silk cloud-accelerated browser
Display							
	6" E Ink Pearl	6" E Ink Pearl		6" E Ink Pearl		9.7" E Ink Pearl	7" Vibrant Color IPS
Battery Life, Wireless Off							
	1 month	2 months		2 months		3 weeks	8 hours continuous reading or 7.5 hours video playback
Storage							
	2GB on device for 1,400 books	4GB on device for 3,000 books		4GB on device for 3,500 books		4GB on device for 3,500 books	8GB on device for 80 apps plus either 10 movies or 800 songs or 6,000 books
	Plus free cloud storage for all Amazon content so you never have to worry about running out of space	Plus free cloud storage for all Amazon content so you never have to worry about running out of space		Plus free cloud storage for all Amazon content so you never have to worry about running out of space		Plus free cloud storage for all Amazon content so you never have to worry about running out of space	Plus free cloud storage for all Amazon content so you never have to worry about running out of space
Dimensions							
	6.5" x 4.5" x 0.34"	6.8" x 4.7" x 0.40"		7.5" x 4.8" x 0.34"		10.4" x 7.2" x 0.38"	7.5" x 4.7" x 0.45"
Weight							
	5.98 ounces	7.5 ounces	7.8 ounces	8.5 ounces	8.7 ounces	18.9 ounces	14.6 ounces
Interface							
	5-way controller	multi-touch		keyboard		keyboard	multi-touch

Fig. 1. Comparison chart.