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## Getting in touch with your thinking style: How touchscreens influence purchase



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#### ABSTRACT

Touchscreen technology has rapidly penetrated the consumer market and embedded itself into our daily lives. Given the pervasiveness of this new phenomenon, we know surprisingly little about its effect on consumers. This research updates academic theory by investigating how newly evolved touchscreen technology affects consumer behavior. Across three lab experiments with university students, we found purchase intentions differ across device and product nature. In particular, this research demonstrates that purchase intention differs between touchscreens and desktop computers. Further, situation-specific thinking style is revealed as an underlying mechanism that contributes to such differences, such that touchscreens evoke a stronger experiential thinking style, while desktops evoke a stronger rational thinking style. Moreover, the findings suggest that greater experiential thinking enhances a consumer's preference towards hedonic products, while greater rational thinking endorses utilitarian products. Together, this pattern leads touchscreen users to prefer hedonic products over utilitarian products. Given the growing usage of touchscreen devices, this research has important implications for consumers, marketers, and policy makers.

#### 1. Introduction

Touchscreen technology has existed for more than 30 years, though its use was mostly limited to ATMs, self-service kiosks, and point-ofsales terminals. With the launch of affordable consumer electronic devices such as smartphones and tablets though, this technological innovation has reshaped consumers' lives anew. Affordable, easy-to-use touchscreen technology dramatically alters human-machine interfaces, and consumers have readily accepted this dramatic change, as indicated by the skyrocketing demand for touchscreen devices. Predictions indicate that the touchscreen market will experience compound annual growth rates of 41% from 2013 to 2018 and reach a value of \$51.77 billion by 2018 (Research and Markets, 2013). The prevalence of touchscreen devices sends a clear signal: consumers enjoy tactile communication tools. Data also show that consumers enjoy shopping on them. Global mobile commerce more than doubled from 2012 to 2013, growing from \$61 billion to \$133 billion, and the \$626 billion in mobile commerce predicted by 2018 will account for nearly one-half of all e-commerce (Madrigal, 2014).

These ubiquitous touchscreen interfaces spawn a new stream of questions for academia and industry. The use of touch potentially represents a new influence on behavior and consumption decisions, because consumers use their fingers to complete shopping processes; to zoom in and out to manage photo albums; and to tap, drag, swipe, pinch, and rotate while playing games on touchscreen devices. Their intuitive interfaces also make touchscreens easy to use. Although this phenomenon is observable, the rapid growth of touchscreen usage has not been accompanied by academic theory. The way tactile uses on touchscreens affect consumer behavior and decision making in various activities is uncertain, suggesting the need for advanced tactile research. To address this gap, the current study investigates touchscreen devices and the underlying psychological drivers that contribute to consumers' responses to products presented on different devices. We identify differential effects of device types on purchase intentions, such that consumers are more likely to purchase hedonic products on handheld touchscreen devices but favor utilitarian products when using desktop computers (study 1). We then validate situation-specific thinking style as an underlying mechanism that contributes to the differences between the devices. Specifically, touchscreen users apply a more experiential but less rational thinking style compared to desktop users (study 2). We also demonstrate that these situation-specific thinking styles mediate the relationship between device type and purchase intentions, and this mediation is moderated by the nature of the product (study 3).

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These research findings thus offer a deeper understanding of touch technology in the digital age and simultaneously shed light on sensory marketing. First, extant sensory research acknowledges the important role of touch in consumer decision making and judgment but has not yet incorporated the tactile effects associated with the use of touchscreen devices. We extend existing theory by detailing how device type and product nature interact to affect consumer decisions. Second, we explicate the mechanism that drives the differential effect across products by showing that a touchscreen is more likely to evoke an experiential thinking style among users, whereas a computer induces a rational thinking style. Third, we extend the substantive literature on how hedonic and utilitarian products influence consumers' decisions by exploring these product types across purchases made through different devices. Fourth, considering the increasing use of touchscreen devices, our research provides practical solutions for marketing channel selections; hedonic products should be promoted through mobile channels, but utilitarian products should appear more regularly on traditional online channels.

#### 2. Theoretical background

#### 2.1. Tactile effects

As one of the five senses, touch can strongly affect a consumer's shopping process. Traditional touch research reveals that consumers acquire information by touching products (Gladwell, 1996), use this information to form product evaluations (Peck and Childers, 2003), and then rely on those evaluations as peripheral cues (Peck and Johnson, 2011). During the process, consumers' hands gather information about material properties, such as texture, hardness, temperature, and weight. This process entails a haptic system (Klatzky and Lederman, 1992), defined as "the active seeking and pickup of information by the hands" (Peck and Childers, 2003, p. 36). For example, a parent could assess the value of a child's toy by feeling its texture.

The prevalent taxonomy of touch in marketing focuses on three prepurchase behaviors and one hedonic behavior (Peck, 2010). First, consumers might touch a product to purchase it but without intentionally gathering product information from their touching. Second, consumers might touch a product to obtain information from their other senses; that is, consumers could pick up a product to inspect it visually or smell it. Third, consumers might touch a product to obtain additional information through touching (e.g., texture). Finally, consumers might touch a product just for the sensory experience. This taxonomy effectively applies to situations in which customers physically touch real products. However, emerging touchscreen technology demands an expansion of the taxonomy to account for situations in which the consumer cannot physically access the product, but touch remains an integral part of the purchase process. For example, online consumers cannot touch or collect information about products through haptic feedback, but the haptic system still facilitates their purchases while they use their fingers to click the mouse of a computer or to navigate on a touchscreen device directly.

The growing use of online and mobile commerce implies the increased frequency of such considerations, because touch serves not to evaluate the material of a product but instead to conduct information searches and complete purchases. If consumers rely on a touchscreen to complete these tasks, the touching performed by their fingers replaces other tools (e.g., mouse and physical keyboard). By more directly integrating parts of their bodies (i.e., fingers) in the process, consumers form new shopping experiences because of their increased usage of their haptic systems; these experiences differ from those acquired from either in-store shopping or traditional online shopping using a desktop. Touching products as part of the purchase process has been explored (Krishna and Morrin, 2008); non-product touching has received much less attention (Brasel and Gips, 2014). Thus, our research focus is on this non-product touching context and aims to offer insights in this area.

We examine touch effects across two different devices, namely, desktop computers and handheld touchscreen devices. In mobile shopping contexts, touch becomes part of the purchase process with little relation to physically touching the product. The new and different ways people employ touch across various devices to complete distinct tasks could induce different shopping experiences, which in turn might alter consumers' purchase intentions. Furthermore, as uses of haptic technology grow, public- and private-sector actors seek to understand consumer behavior and decisions when they use the new technology. Academic knowledge is incomplete regarding the impact of touch technologies on consumer purchasing behavior. Our research furthers this new stream in sensory marketing.

Consumer experiences on touchscreens likely differ from their experiences on computers, due to differences in tactile effects, but we do not know how those differences might become palpable in consumer behavior. Nor do we have a clear sense of whether the differences are equivalent across various factors, such as the nature of the products being considered. Consumers might behave differently when using different devices to shop for a product with either a hedonic or a utilitarian nature.

#### 2.2. Product nature

Products often are described along hedonic and utilitarian dimensions (Hirschman and Holbrook, 1982). We define hedonic products as those that are affective and fun, with a great degree of sensual pleasure (e.g., chocolates, massages). Utilitarian products are those that are instrumental and practical, with a mainly functional purpose (e.g., bread, health care visits; Dhar and Wertenbroch, 2000). Marketing scholars have widely investigated consumer motivations for purchasing hedonic products (Hirschman and Holbrook, 1982), trade-offs between hedonic and utilitarian products (Chitturi et al., 2007), and the importance of hedonic products' potential to delight, rather than merely satisfy, consumers (Chitturi et al., 2007). Despite this substantive literature, scholars have yet to establish if consumer behavior toward products of different natures persists whether they evaluate or purchase those products through traditional versus touchscreen devices. To begin filling this gap, we present theoretical predictions and provide empirical evidence about the differential effects of desktops and touchscreen devices.

When a consumer uses a touchscreen device, the novelty and fun generated by finger movements create experiential and affective feelings, in alignment with the playfulness and emotional nature of hedonic products. Therefore, using a touchscreen device can enhance the affective nature of hedonic products, leading to a greater preference for them. Conversely, using a touchscreen device may detract from the practical nature of utilitarian products and lower preferences for such products. On a desktop, touching a keyboard and moving a mouse do not generate the same tactile effects as using fingers to touch and complete tasks. Instead, the tactile movements on desktops are functional and pragmatic, in alignment with the practical nature of utilitarian products. Furthermore, the rational and task-related behavior demonstrated by consumers shopping for utilitarian products (Batra and Ahtola, 1991; Engel et al., 1993) matches most common uses for desktops. Therefore, using a desktop increases preferences for utilitarian products but lowers them for hedonic products. We propose:

**H1.** Product nature moderates the effect of device type on purchase intentions, such that consumers are more likely to purchase hedonic products on a touchscreen device and more likely to purchase utilitarian products on a desktop.

This proposition should have substantive managerial implications and add to this growing body of research, but it does not clarify the underlying mechanism that drives the phenomenon. What elicits congruency between device type and product nature? Might the two

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