Fashion Digital Products: Rethinking Product Categories and Characteristics

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Introduction   The fashion industry has witnessed drastic changes over the past few years. Technological development sparked innovations in many areas such as new production processes, marketing communications, virtual experiences on digital devices, etc. Much interest was concentrated on new technological advances in digital retail channels and consumer experiences (e.g., virtual fitting room) (e.g., Fiore & Jin, 2003) or on the process of design and/or production (e.g., mass-customization, co-design) (e.g., Ulrich, Anderson-Connell, & Wu, 2003). However, innovative changes in fashion products have gained little attention of researchers. The digital world created new products such as e-books, online game items, streaming movies and music files. These digital products, goods or services stored, delivered, and/or used electronically, are different from traditional products due to its intangibility and ambiguous ownership (Sweazey, Kalker, & Thill, 2011). The characteristics of digital products question our basic understanding of the concept of products. When we purchase a digital fashion magazine subscription, do we own the product? How do we evaluate the value of the product? In response to these recent developments, we aim to advance theory and research on products in the new digital era. Particularly the following critical questions need to be addressed:

- Can the current definitions and theories of products and product evaluations successfully explain the fashion digital products?
- What new conceptualizations are necessary to capture the fashion digital products?
- What can be new developments in the fashion and related industries due to the growth of digital products?

It is apparent that research is in need to expand the horizon of product definition and conceptualization. In doing so, we propose a conceptual framework of product classification for the fashion industry and pose questions for researchers and practitioners regarding issues and opportunities this re-conceptualization brings about.

The Fashion Digital Product Categories   Our conceptual model built on Wang, Wang, and Yao's (2009) classification of digital products: (a) content-based digital product (e.g., e-book); (b) utilities and tools (e.g., anti-virus software); and (c) online services (e.g., online translation). Our classification extends Wang et al.'s (2004) work by applying their framework into the fashion and its related industry sectors. 70 undergraduate students enrolled in an introductory retail management class participated in a categorization task for digital products in the fashion industry. The students were given the definitions of three digital product categories from Wang et al. (2009) and told to provide examples of fashion-related digital products that belong to each category. They were also given an additional category, "others", if they had examples that did not fit to any of the three given categories. The task generated 184 digital products. Two researchers content-analyzed the student responses and identified four fashion digital product categories (see the Table).

Category	Definition	Example
Content-based products	Digital products that transfer contents directly to digital channels such as online magazines	Style.com, WGSN
Tools	Digital products for performance and productivity in the fashion industry	CAD software (e.g., Photoshop)
Functional services	Digital services that assist consumers with shopping functions such as price comparison, finding merchandise and coupons	Groupon, Shopstyle, Stylecaster
Experiential products	Digital products that satisfy consumers' experiential needs on its own	Online fashion games

Issues and Opportunities   Several research questions related to fashion digital products are raised: 1) Product attributes and evaluation models need to be re-evaluated to absorb digital products. With abundant free digital products, pricing may be an interesting problem. Identification of product value propositions for fair price perception is in need of investigation. 2) Copyright and intellectual property issues have been discussed in digital environment (Bonifield & Tomas, 2008) and the fashion digital products are no exception in this matter. Ease of copying the content also raises a potential issue of illegal content/file sharing among consumers. 3) Digital products, particularly ones on a web-server, may increase privacy risk perception because retailers can collect information regarding how consumers use the products. However, these products can also enhance consumer experience (e.g., personalization). Research that investigates how this double-edged sword can be properly used is needed. 4) Loss leader pricing strategies (i.e., selling selected products below cost) are frequently used to draw consumer traffic to a retailer's website. Because of the low cost to move among different retailers, cherry-picking behavior wherein customers move from store to store, making purchases only on loss leaders, is likely to be an issue. 5) The growing popularity of digital products has created unprecedented opportunities and innovations for fashion and its related industries, blurring traditional boundaries between industries. For example, an online clothing retailer SSENCE and a rapper Iggy Azalea released a music video where viewers can purchase the products shown on screen while watching the video (Agathou, 2012). Research is needed for business strategies and processes for these new opportunities.

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