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Consumer attention to price in social commerce: Eye tracking patterns in retail clothing☆

R.G. Vishnu Menon [a,*], Valdimar Sigurdsson [a], Nils Magne Larsen [b], Asle Fagerstrøm [c], Gordon R. Foxall [d]

[a] Reykjavik University, Menntavegur 1, Nautholsvik, 101 Reykjavik, Iceland
[b] UiT The Arctic University of Norway, Campus Harstad, N-9480 Harstad, Norway
[c] Westerdals Oslo School of Arts, Communication and Technology, Schweigaardsgate 14, 0185 Oslo, Norway
[d] Cardiff University, Aberconway Building, Colum Dr, Cardiff CF10 3EU, United Kingdom

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ABSTRACT

Although the literature establishes the importance of pricing in relation to traditional retailers and e-commerce, few studies consider its importance in social commerce. This study uses eye tracking to examine observational behavior as fixation time on price and the total fixation time on a Facebook page that displays clothing products. This study employs interventions both directly related (via different prices of clothes and price visibility) and indirectly related (via human models vs. mannequins) to the price label. Results show a U-shape function for fixations on price and total fixations on a page with respect to price for females who buy for themselves and males who buy for their partners. This finding points not only to the utilitarian position of price, but also to its informational role. This study introduces a conceptual framework for further research, focused on the mechanisms through which social commerce can lead to increased sales and profits.

1. Introduction

Social commerce is a business activity—social media platforms such as Facebook, Twitter, Instagram, and Pinterest mediate this activity and allow people to participate in the marketing, selling, comparison, buying, and sharing of products and services (Zhang, Zhou, & Zimmermann, 2013). Currently, social media has the potential to bring direct economic value to retailers as a result of transaction-based social commerce activities. For example, a Facebook storefront provides retailers with an additional outlet for promotion and sales opportunities and many retail-clothing companies have begun to exploit this channel to sell products (Kang & Johnson, 2015), which gives rise to "f-commerce." F-commerce is a form of social commerce that by definition uses Facebook as a platform to facilitate and execute sales transactions (Kang & Johnson, 2015).

Although clothing retailers have adopted social media such as Facebook to a great extent as an extra promotional screen and even as a sales platform, the clothing industry—in contrast with other sectors—has been slower to adopt online commerce in general (Sender, 2011). Consumers often characterize clothing as a "feel-and-touch product" that requires high sensory evaluation and/or trial to judge its quality (Kim & Kim, 2004), and for this reason, online clothing shopping environments are understandably less efficient than traditional retail stores in the provision of such opportunities to the consumer. Such limitations of online environments would increase the relative importance of those attributes attached to a product offer that are more perceptible to the consumers' eyes. Price, as one such attribute, attracts consumers to online stores and is among those attributes that ensures they return (Reibstein, 2002). However, with regard to the overall relationship between price and demand, the findings in the literature are not straightforward (e.g., Gijsbrechts, 1993; Somervuori, 2014). The economics and marketing literature widely acknowledges price to have attractive as well as aversive effects on demand (Gaur & Fisher, 2005; Rao, 2005; Rao & Monroe, 1988), and considers that price affects consumer choice both as a budget constraint and as a signal of subjective quality (Sigurdsson, Foxall, & Saevarsson, 2010; Zeithaml, 1988). Studies show that price has a negative effect on perceived value and willingness to buy (Dodds, Monroe, & Grewal, 1991). However, pricing can also increase both perceived effectiveness and the actual efficacy of products, as Shiv, Carmon, and Ariely (2005) demonstrate. This lack of consistency in the effects of price on consumer behavior warrants further empirical study in an online environment, especially as pricing becomes a more salient product attribute as customers cannot touch,

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* Corresponding author.
E-mail addresses: rgvishnu@ru.is (R.G.V. Menon), valdimars@ru.is (V. Sigurdsson), nils.magne.larsen@uit.no (N.M. Larsen), fagasl@westerdals.no (A. Fagerstrøm), foxall@cardiff.ac.uk (G.R. Foxall).

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feel, or try on different products (clothes in this research) online. The literature devotes insufficient attention to this aspect of social commerce practice.

Retailers that display items on social media platforms must have knowledge of pricing, combined with data on the consumer's visual attention to price, in particular. A consumer's brain relies on visual attention to process effectively the vast amount of information that a web promotional site presents. Neuroimaging studies, for instance, identify the units of visual information that an individual selects for attention (Kanwisher & Wojciulik, 2000). Several studies demonstrate a strong connection between visual attention and eye movements (for a review see Orquin & Loose, 2013). However, the existing research does not pay sufficient attention to the interaction effect between two different processes in visual attention, namely goal-driven and stimulus-driven attention (Orquin & Loose, 2013). For example, studies inadequately explore the impact of stimulus-driven factors such as saliency (display methods) and position on goal-driven variables like utility (price) from a social commerce perspective.

Although the literature establishes the importance of pricing in relation to traditional retailers and e-commerce (Fagerstrøm & Ghinea, 2011), researchers do not sufficiently consider the issue of pricing within social commerce practice. This study aims to fill this gap through an examination of the effect of stimulus-driven factors on consumers' attention to goal-driven variables such as price in a social commerce setting, and uses an eye tracking methodology for this purpose. In line with Menon and Sigurdsson's (2015) study, which confirms the primacy of price for shoppers on Facebook, this study seeks to determine how direct (price-related variables) and indirect (display methods) interventions with price affects consumers' attention to price and total time on a page. Eye tracking methodology allows researchers to study the behavioral-environmental processes behind a purchase more effectively. Furthermore, this methodology provides real-time information on consumers' fixations and visualization patterns (Vila & Gomez, 2015). The present study adopts the approach of inductive reasoning in which researchers create and analyze large datasets from eye tracking data to identify patterns and then build a model to develop hypotheses in future studies. The structure of the paper is as follows. First, Section 2 reviews the relevant literature that considers attention to price at various price points, the effect of price visibility on attention to price, and finally, the effect of display methods on attention to price. Section 3 and Section 4 present the methodology and findings. Sections 5 and 6 conclude the paper with a discussion on academic and practical implications, the development of a conceptual framework, and directions for future research.

2. Theoretical background

2.1. The effect of price points on attention to price

Consumers base their purchase choice on what they learn from previous experiences (Monroe & Lee, 1999) and tend to gaze at information with greater importance to their choice (Orquin & Loose, 2013). Previous studies show that attributes with greater importance to the choice maker receive more fixations (Glöckner, Fiedler, Hochman, Ayal, & Hilbig, 2012; Meißner & Decker, 2010; Su, Rao, Li, Wang, & Li, 2012). Wagner (2007) suggests that many consumers who shop for apparel seem to look explicitly for low prices; however, in price-driven motivation, consumers seek reasonable prices, which need not be the lowest, comparatively, but which fall within a moderate range of prices. Wagner (2007) concludes that apparel shoppers appear to be price conscious and are attracted to retail prices that are not too high when compared with other market offers. Studies by Meißner and Decker (2010) and Sütterlin, Brunner, and Opwis (2008) also find that an attention-attribute importance relationship follows a U-shape curve, with more fixations on low and high importance attribute levels.

2.2. The effect of price visibility on attention to price

Research on attention to goal-driven stimuli such as price offers a crucial finding that task relevance is contingent on task demands (Orquin & Loose, 2013). Since task relevance is the primary driver of goal-driven attention (Navalpakkam & Itti, 2005; Sprague, Ballard, & Robinson, 2007), several studies investigate task-specific effects on attention (Glaholt, Wu, & Reingold, 2010; Glöckner et al., 2012; Toubia, de Jong, Stieger, & Füller, 2012) and their results show that people pay increased attention to goal-relevant stimuli. Hence, this study assumes that price visibility is a crucial factor that affects attention. Consumers generally tend to read from left to right and from top to bottom, which fact inspired several studies on position effects such as the list position effect (Chandon, Hutchinson, Bradlow, & Young, 2009; Shi, Wedel, & Pieters, 2013) and the central position effect (Chandon et al., 2009; Glaholt et al., 2010; Lohse, 1997; Shi et al., 2013).

2.3. The effect of model/mannequin presence on attention to price

Displays are a very important element of online clothing merchandising, as most of the time, either a model or a mannequin displays the clothes. Several previous studies investigate the impact of human images/celebrity endorsements on consumer behavior, both in offline (e.g. Felix & Borges, 2014, Silvera & Austad, 2004) and online (Chae & Lee, 2013; Cyr, Head, Larios, & Pan, 2009; Djamasbi, Siegel, & Tullis, 2010) environments. Importantly, these studies find that faces attract consumers' visual attention more than any other visual stimuli, or at the expense of other visual stimuli (Bindemann, Burton, Hooge, Jenkins, & de Haan, 2005; Cerf, Harel, Einhäuser, & Koch, 2008; Palermo & Rhodes, 2007). Though sparsely, some studies consider the effect of mannequins on shopping behavior (Fiore, Yah, & Yoh, 2000; Kerfoot, Davies, & Ward, 2003; Law, Wong, & Yip, 2012; Lindstrom, Berg, Nordfalt, Roggeveen, & Grewal, 2015; Oh & Petrie, 2012; Sen, Block, & Chandran, 2002). These studies show that the presence of a mannequin affects purchase intention and willingness to pay, store entry decision, and consumers' imagination in seeing themselves in the clothing displayed. However, few studies consider the effect of display methods (such as models and mannequins displayed on firms' social media sites), and consumers' attention patterns (in terms of first fixation and fixation time) that specifically focus on price in an online context.

3. Method

3.1. Participants, setting, and product

The study collaborated with a clothing retailer that uses a Facebook page as its primary shopping website through which consumers can order a product via phone or email. The products are trendy and fashionable and are not limited to clothes, although this study focused on clothes as they constitute the majority of the products available. The study used ladies' clothing displayed by the retailer on its Facebook page as the target product. The retailer provided the pictures of these dresses. The study selected participants randomly from a student population. The sample consisted of 34 European students (16 men and 18 women). The study measured participants' ages in five categories (<20, 21–30, 31–40, 41–50 and >50). One participant belonged to the <20 category, 18 belonged to the 21–30 category, 11 to the 31–40 category, three to the 41–50 category, and one belonged to the >50 category.

3.2. Design and procedure

At the onset of the study, an instruction slide asked the participants to go through a number of pictures on the Facebook page of the company under study. Each participant received a total of 25 pictures in different