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Brand-related and situational influences on demand elasticity

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ABSTRACT

The marketing literature generally supports the view that price elasticity varies from product/brand to product/brand, influential work by Ehrenberg and England (1990) suggests that elasticities show little variation even when prices themselves are changing. The paper reports an investigation of variations in demand elasticity for foods that indicates that brand attributes (conceived as the functional and symbolic benefits provided to consumers) contribute differentially to demand elasticities. Using panel data for 1500+ consumers purchasing 4 food products over 52 weeks, the study examines how factors other than price affect demand elasticity for brands. Contrary to and in addition to Ehrenberg and England (1990) findings, price elasticities for products and brands emerge as extensively dynamic. In addition, the functional and symbolic characteristics of brands relate to these exhibited patterns of elasticity. The paper also discusses reasons for the discrepancy between these results and those reported by Ehrenberg and England (1990).

1. Introduction

Marketing scholars and practitioners often claim that brands have a characteristic price-elasticity. Evidence for this finding comes from experimental investigations (Mahajan and Wind, 1986; Narasimhan and Sen, 1983; Shoker and Hall, 1986; Urban and Hauser, 1980) which report that a brand/product has its own elasticity, a finding that corroborates demand theory (Broadbent, 1980; Gabor, 1988; Nagle, 1987; Roberts, 1980; Telser, 1962). Price is not the sole factor affecting elasticity, of course (e.g. Scriven and Ehrenberg, 1999), but consumers' price sensitivities make a central input to marketing strategy and tactics (Anderson and Simester, 2009; Ratchford, 2009). Any study that generates contrary results and remains influential some 20 years after its initial publication therefore deserves respect and attention.

Ehrenberg and England (1990) report, on the basis of an experimental study, that elasticity for foods does not differ significantly across brands and products, even when prices are rising or falling and doing so at different speeds. This paper examines these claims by an investigation based on direct observation of consumer choice, which assesses elasticity across food products and brands. The findings indicate that elasticity for such products and brands is dynamic to an extent not identified by Ehrenberg and England (1990) and that the functional and symbolic characteristics of brands relate systematically to patterns of elasticity. The intention of this paper is not to direct criticism at Ehrenberg and England's (1990) methodology per se, which is entirely appropriate given their research interests and questions; rather, the aim is to contrast the implications of their research strategy with a non-experimental methodology, to test the relevance to consumer buying of the explanatory variables identified by the Behavioral Perspective Model (BPM; Foxall, 1990). To the extent that Ehrenberg and England's (1990) paper has become a taken-for-granted reference in the study of price elasticity (e.g., Brodie and Danaher, 2000; Dawes, 2004; Ehrenberg, 1995; Pauwels et al., 2007; Scriven and Ehrenberg, 1999, 2004) such comparative evaluation is imperative to identify the unique contributions of alternative methodologies.

2. Literature review and hypotheses

Most research into factors that influence elasticity focuses on *consumer*-related characteristics, demographics and psychographics (e.g. income level, social class, age family size, education, house value, working status and ethnicity) but shows little consensus (Ainslie and Rossi, 1998; Coe, 1971; Gabor and Granger, 1961; George et al., 1996; Jones and Mustiful, 1996; Kim et al., 1999; Kenesei and Todd, 2003; Mazumdar and Papatla, 1995; Murphy, 1978; Rosa-Diaz, 2004; Scriven and Ehrenberg, 2004; Sirvanci, 1993; Zeithaml and Fuerst, 1983). Some investigations of demographics in relation to price elasticity, support the view that these variables significantly influence price responsiveness (Ainslie and Rossi, 1998; Coe, 1971; Gabor and

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Granger, 1961; Jones and Mustiful, 1996; Mazumdar and Papatla, 1995; Murphy, 1978; Rosa-Diaz, 2004; Scriven and Ehrenberg, 2004; Zeithaml and Fuerst, 1983). Other results offer emphatic counter-indications (Bell et al., 1999; Boatwright et al., 2004; George et al., 1996; Kenesei and Todd, 2003; Kim et al., 1999; Murphy, 1978; Scriven and Ehrenberg, 2004). Amid the confusion of findings on consumer characteristics, few investigations consider *brand*-related characteristics as factors affecting elasticity.

Based on research designed to test the Behavioral Perspective Model (BPM), Foxall et al. (2004) present evidence that consumer behavior is influenced by benefits that consumers gain from buying and consuming products and that these benefits fall into two basic categories: utilitarian rewards that stem from the use-value of the product or service, and informational rewards that inhere in the social status conferred by owning and using the product. These benefits stem from characteristics of brands, that is, well-known or less well-known brands, high quality or non high quality brands, brands with additional attributes or non additional attributes. Consumers take all these features into consideration before they make buying decisions. Indeed, even though fast-moving consumer goods such as foods may be low-involvement purchases, evidence suggests that consumers take the functional and symbolic brand features into considerable account when making purchase decisions. Food purchases are sensitive to both aspects and the price sensitivity of consumers varies as predicted by the BPM with the pattern of utilitarian and informational reinforcement represented by the combination of these aspects (Foxall et al., 2004; Foxall et al., 2007; Oliveira-Castro et al., 2010). The degree to which brands within and between product categories act as substitutes or complements also varies with the patterns of reinforcement that embody these product/brand features (Foxall et al., 2010). In addition, these results corroborate work in several countries, by a number of researchers, employing a variety of research techniques from panel data analyses to experimentation and surveys (Oliveira-Castro et al., 2010). Hence, brand-related characteristics as well as price determine consumers' buying behavior.

To ascertain how those brand-related characteristics influence consumer's brand choice, possible benefits of those characteristics that strengthen buying behavior need clarification. Researchers support the view that brand-related characteristics confer both functional (utilitarian) benefits, such as satisfaction of consuming food products and their contribution to biological well-being, and the symbolic benefits derived from other people's approval or the individual's reaction self-esteem that accrues from personal consumption experience (Foxall, 2005). These consequences relate to the probability that the consumer will buy and use the product and brand in question on future shopping or consumption occasions represented by the consumer's learning history.

Shown on the left-hand side of the BPM (Fig. 1) are the consumer behavior setting and consumers' learning history, which are antecedents of buying behavior. The former comprises the stimuli that define the

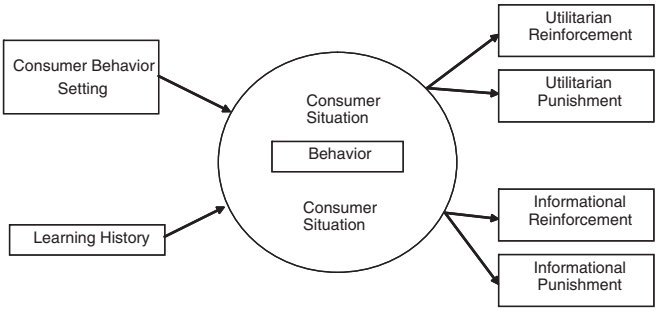

Fig. 1. The Behavioral Perspective Model (BPM) with consumer behavior setting and consumer's learning history on the left side and utilitarian/ informational reinforcement and aversive consequences on the right hand side. (*Source:*Foxall, 1990/Foxall et al., 2004).

situation in which purchasing and consumption take place. A more open setting such as a convenience store or a supermarket allows a wide range of behaviors to be enacted (i.e., the consumer is said to have greater choice) whereas more closed settings such as waiting in line at the supermarket check-out or filling out forms in order to obtain a passport, credit card or mortgage severely limit the number of options the consumer has available. A consideration that arises from this setting effect involves the rather different contexts in which this research and that of Ehrenberg and England took place. This complex of predictive stimuli is the consumer behavior setting and the setting scope reflects the number of competing choices the behavior setting signals as available to the consumer. A setting that permits only a single behavior to be enacted or, at best, a few behaviors is known as a closed setting and is exemplified by being a dental patient: although one is at liberty to leave the surgery at any time, most people feel constrained to follow the single program of behaviors that define being a patient. By contrast, an open setting permits numerous alternative behaviors and is exemplified by a buffet at which the consumer is able to select among many foods and drinks and combinations of foods and drinks, to move around more or less at will, to speak to whomever they choose, and to leave at any time.

By comparison with the study in this paper which tracks naturally occurring and comprehensive supermarket shopping over a year, Ehrenberg and England's (1990) experiment employed 12 sales visits over a 24 week period in which homemakers were offered up to four brands of five products (breakfast cereals, confectionary, soup, tea and biscuits). Although respondents were not obliged to purchase each product, they generally did so. Prices of the brands differed from week to week, not according to normal commercial variations as did prices paid by the panel members, but by arbitrarily determined 15% swings around the brand's normal mid-price. Some price changes were double this proportion in order to ascertain the effect of accelerated price changes. The consumer behavior settings were, in the experiment, restricted in themselves and did not take place in the fluid context of a normal shopping trip where consumers typically purchase many products within the consumer's budget and time-frame and where numerous brands and offers are available in each case. Hence, the judgment that the Ehrenberg–England study took place in a far more closed setting than did this study.

The idea of a continuum of consumer behavior settings defined in terms of their scope is of particular interest in the quest for factors that determine the elasticity of demand for food products and brands, for elasticity varies with the number of substitute behaviors (hence, products or brands) available to the consumer. Elasticity is higher when more rather than fewer substitutes are available, therefore, that elasticity would be more dynamic in the case of the relatively open settings in which this investigation occurred than for the relatively closed experimental settings in which Ehrenberg and England's conducted their research.

Learning history refers to the consumer's experience with a product or brand and the beneficial and punishing consequences that ensued. With rewarded behavior, consumers are likely to be motivated to maintain this behavior, to buy the same or similar product again, and vice versa. Both the behavior setting and learning history are antecedents for emitting a buying behavior.

On the right-hand side of the BPM (Fig. 1) are the consequences of behavior that influence the behavior's future rate of occurrence: functional (or utilitarian) and symbolic (informational) rewards and aversive consequences (or costs). Utilitarian benefits derive directly from the product itself, including functional outcomes of purchase and consumption. Informational benefits, in contrast, derive indirectly from the product but from the actions and reactions of other people. While utilitarian benefit associates to economic and functional benefits of products or services, informational benefit relates to social status and prestige, associated with buying, owning, or using products or services. In addition, informational benefit conveys two categories of meaning—public and private informational benefit. Public