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Experience-Based Design: Some Concepts and Issues

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Recently, marketing scholars have emphasized the importance of orchestrating memorable consumer experiences. Product design is a central element of engineering consumer experience. This has resulted in the emergence of experience design as a theoretically significant area of study in design theory. Within marketing, there is inadequate research in building theoretical frameworks that explicitly focus on integration of consumer experience in product development. To address this gap, this paper proposes a conceptual model of experience-based product development. The paper contributes by providing a novel approach to product development and highlighting future research directions in the domain of new product development.

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ABSTRACT

Recently, marketing scholars have emphasized the importance of orchestrating memorable consumer experiences. Product design is a central element of engineering compelling consumer experience. This has resulted in the emergence of experience design as a theoretically significant area of study in disciplines such as design theory. Within marketing there is inadequate research on building theoretical frameworks that explicitly focus on integrating experience design into product development. To address this gap, this paper proposes a conceptual model of new product development that is embedded in an experience-based design approach. The paper contributes by extending current understanding and highlighting future research directions in the domain of new product development.

INTRODUCTION

Recently, marketing scholars and practitioners (Dube and Mukherjee 2001; Joy and Sherry Jr. 2003; Pine and Gilmore 1999) have emphasized the importance of orchestrating memorable consumer experiences in differentiating a firm's offering. Product design is increasingly being recognized as a central element of engineering consumer experience (Walton 1996). Firms such as IDEO are redefining best design practices across a diverse range of product categories and services by making customer experiences a primary mode of engagement (Nussbaum, 2004). Concurrently, in design theory, the emergence of *experience design*, which entails creating "elements that contribute to superior experiences" (Shedroff 2001, 3) appears to be a major development. However, within the marketing discipline the issue of linking product design with consumer experience has received little attention (for an exception see Schmitt 1999). Particularly, there is inadequate research in building theoretical frameworks that explicitly focus on the integration of consumer experience into product development.

To address this gap, this paper proposes a conceptual model of new product development that is informed by an experience-based design¹ approach. The model provides the bases for a number of propositions that highlight key experience-based design issues, as they relate to product development. The conceptual model draws from extant literature in new product development, consumer behavior, human-computer interaction and design theory. The model is intended to extend our current understanding of product development within marketing.

The rest of the paper is organized as follows: First, we describe the experience-based design approach. This is followed by a discussion of the conceptual model. Finally we conclude by highlighting future research directions.

EXPERIENCE-BASED DESIGN APPROACH

An experience-based design approach views products as mediums that enable compelling consumer experiences (Laurel 1991). A critical component of compelling experience is consumers' engagement with a product (Shedroff 2001). Products engage consumers by absorbing consumer attention and appealing to their kinesthetic sensations (Berleant 1991). However, consumers do not perceive products as pure forms but as meanings (Krippendorff 1989). Consumer engagement is therefore, contingent on whether

consumers can make sense of a product; i.e., whether they can identify the product and contexts in which the product can be used. Thus, products do not exist as separate entities; rather they "reveal, communicate or present themselves in the experiences of people" (Krippendorff 1989, 158).

In addition, consumers' apprehension of perceptual features of a product such as color and form are not universal; rather product meanings are associated with particular configurations of perceptual features that are created through a shared consensus within a culture (Csikszentmihalyi 1991). Hence, consumer engagement is influenced by various factors such as "social institutions, belief systems and patterns of association and action" (Berleant 1991, 103) that shape the life of consumers.

The notion of experience-based design has three broad implications for product development. First, experience-based design expands the focus of product development from viewing new products as solutions of consumer problems to viewing them as an integral part of human experience (Laurel 1991). Second, experience-based design implies that user-oriented design (Mitchell 1993, Veryzer and DeMozota 2005) is becoming a critical component of product development processes. User-oriented design encompasses design issues that are explicitly centered on the consumer. These include consideration of design factors such as usability as well as subjective product attributes such as product aesthetics. Third, experience-based design encourages product developers to integrate an explicit understanding of the domains within which new products may acquire meanings and the various levels on which a product engages a consumer.

CONCEPTUAL MODEL OF EXPERIENCE-BASED PRODUCT DEVELOPMENT

In this section, we integrate insights from extant literature and propose a conceptual model of product development (See Figure 1). The conceptual model addresses the research question: How is new product development informed by experience-based design? In subsequent sub-sections we discuss each component of the conceptual model.

Compelling Consumer Experience

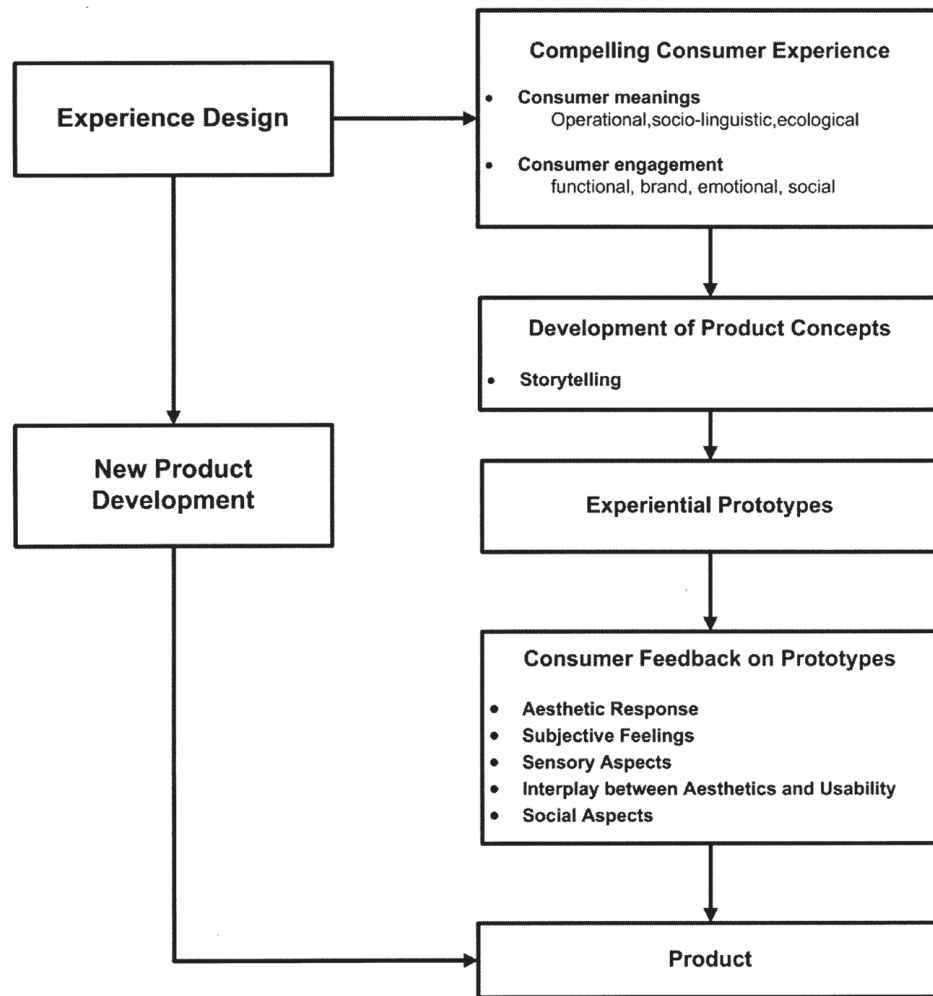
Central to experience-based design is compelling consumer experience (See Figure 1). As discussed previously, there are two key elements that constitute compelling consumer experiences. These include a) consumer meanings and b) consumer engagement.

Consumer Meanings. There are three broad domains within which consumers assign meanings to new products. These are operational domain, socio-linguistic domain and ecological domain (Krippendorff 1989).

First, the operational domain encompasses product meanings that are associated with consumers' interactions with a product. These interactions are delimited by product form which helps consumers in assigning meanings to products within existing definitions of product classes (Bloch 1995). Second, the sociolinguistic domain implies that products acquire meanings through consumer to consumer interactions. Products are employed by consumers as markers of differentiation as well as symbols of integration within a group. Products support playful interactions among consumers (Holt 1995) which enhances their social relationships. Third, the ecological domain suggests that product meanings are formed within a complex web of competing and complementary products.

¹We borrow the term Experience-Based Design from Cain (1998).

FIGURE 1
Experience-Based Product Development



A better understanding of these three domains and the effective integration of insights on these domains into the new product development process is a central feature of an experience-based product development process and therefore, leads us to the following propositions:

- P1:* Experience-based product development integrates consumers' existing definitions of the product class.
- P2:* Experience-based product development integrates considerations of the social dynamics that may be initiated once a product is launched.
- P3:* Experience-based product development focuses on the entire complex within which new products are situated. Thus, new products are designed with an aim to facilitate their integration into a web of competing and complementary products.

Consumer Engagement. As indicated in Figure 1, new products may engage consumers on four levels. First, the functional level entails that products engage consumers by solving their

practical and functional problems (Buchanan 1985). However, consumers are engaged on the functional level only when products are designed so that their functionality extends into the everyday life of consumers. Hence, product design entails encouraging consumers to actively participate in recognizing and thinking about the product function so that they are intellectually stimulated. Second, consumers are engaged with a product at the level of a brand. Brands persuade consumers into believing that a product has credibility in their lives. In addition, consumer-product engagement evokes strong emotions that results in compelling brand experiences (Stompff 2003). Thus, experience-based product development often entails integrating brand values in formulating a product concept. Conversely, brand design strategies focus on style and structure of brand communication that include product design features as well as other elements such as product packaging (Schmitt and Simonson 1997). Third, products engage consumers on an emotional level or on the level of pathos (Buchanan 1985). Hence, the product concept incorporates consumer's emotional expressions in daily life. Finally, consumer-product engagement is manifested at the social level. Products are used in a social context

and support co-experiences of consumers (Batterbee and Kurvinen 2003). To engage consumers at the social level, experience-based product development focuses on the design of products that facilitate mutual interactions between consumers.

P4: Experience-based product development integrates insights on the levels at which new products may engage consumers. Specifically, new products are designed in ways so that they engage consumers on functional, brand, emotional and social level.

Development of Product Concepts

As shown in Figure 1, product concepts are generated based on insights into the various domains within which consumers assign meanings to new products as well as insights based on the various levels on which a product may engage consumers. The model contends that experience-based design employs storytelling techniques to represent product ideas. Storytelling is an effective medium to represent complex ideas in simple form (Sametz and Maydoney 2003). Thus, product concepts tell stories about what the product means and promises to the consumers. Additionally these product concepts detail the product design elements that facilitate consumers to assign meanings to products and enhance consumer-product engagement.

P5: Experience-based product development employs storytelling in generating product concepts.

Experiential Prototypes

Following the generation of product concepts, prototypes of products are developed. Prototypes approximate the product along one or more dimensions of interest (Ulrich and Eppinger 2000). However, in experience-based product development, prototype design implies real or realistic prototypes that are based on consumption like experiences (Holbrook and Hirschman 1982). Experiential prototypes facilitate consumer evaluations of experiential attributes such as sensory and emotional aspects of products that are often evaluated by consumers on subjective terms (Jordan 2000). An example of experiential prototype is scenario based product prototype. These prototypes include scenarios that are constructed with the help of multimedia animations which demonstrate the actual working of new products (Wood 1996). In addition, other experiential prototypes include physical models and visual representations of products.

P6: Experience-based product development employs real or realistic prototypes that facilitate consumer feedback on experiential product attributes.

Consumer Feedback

Subsequent to development of experiential prototypes, consumers provide feedback on prototypes (See Figure 1). There are five major types of consumer feedback that are desired in experience-based product development. First, feedback includes consumers' aesthetic responses to prototypes which include their perception of product features represented in the prototype. Second, consumers' feedback also incorporates evaluation of the prototype in terms of consumers' subjective feelings such as 'cool', 'fun' or 'sexy' (Bloch 1995, Jordan 2000). Third, consumers evaluate experiential prototypes on the extent to which prototypes engage multiple sensory modalities such as smell, touch, taste, sight and sound (Schmitt 1999). Fourth, consumer feedback involves the interplay between product aesthetics and product usability. Norman

(2004) proposes that aesthetically pleasing products evoke positive emotions in consumers that in turn stimulate their creativity. Enhanced creativity extends consumers' potential of discovering innovative solutions to problems that they may encounter while using the product. This enhances consumers' product usability perceptions. Finally, consumers evaluate experiential prototypes on the extent to which products support collaboration in a group and enhance their interactions with others.

P7: In experience-based product development, prototypes are evaluated based on consumers' aesthetic response, subjective feelings, multi-sensory engagement, interplay between usability perceptions and product aesthetics and the extent to which prototypes support social interactions.

Product

Once consumer's evaluations on prototypes are obtained, the actual product is created. Consumers further develop these products in their daily lives through personalizing products and recontextualizing meanings that are assigned to new products by developers (McCarthy and Wright 2004). Insights into these processes are integrated into the next phase of product development. Therefore, experience-based product development does not reach closure once the actual product is developed. Rather, experience-based product development is a continuous process in which design problems are constantly redefined through consumers' experiences with the product.

FUTURE RESEARCH DIRECTIONS

Integrating insights from consumer behavior, new product development, design theory and human-computer interaction, this paper proposes a conceptual model of product development that is informed by experience-based design. In addition, the paper provides a set of propositions that follow from the model. The model and propositions open up several promising research directions in the domain of new product development.

As the emphasis shifts from designing objects to designing experiences (Laurel 1991; Mitchell 1993), design is being redefined as a collection of dynamic processes centered on consumer experience (Mitchell 1993). Further research at the confluence of marketing and design is needed to understand how products and brands fit within these dynamic processes.

Future research can also examine the roles of existing product classes, social interactions, and competing and complementary products in influencing consumers' interpretations of new products.

Another research issue that deserves further attention is the various levels at which a product engages consumers. Especially, future studies can explore how product and brand design can be effectively integrated in order to provide compelling experiences to consumers. Also required is an understanding of how storytelling can be effectively employed within new product development process.

Future research also needs to pay attention to the intersection between marketing and design functions of a firm. An effective integration of marketing and design facilitates successful incorporation of intangibles such as consumer experiences in all stages of product development.

To conclude, this paper discusses some key concepts and issues that characterize an experience-based design approach. By no means are these set of concepts and issues exhaustive. But it is hoped that illumination of such critical design aspects will orient

research in marketing to address new concerns, thereby extending and supplementing existing knowledge at the marketing-design interface.

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