

## **Managing User Involvement in the Early Stages of New Product Development**

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## Abstract

The literature primarily focuses on two aspects of user involvement in the new product development process. Firstly, how new product development (NPD) relationships form and mature (Milson, Raj and Wilemon, 1996) and secondly the variables that impact on collaborative user involvement (Gruner and Homburg, 2000; Biemans, 1992). However, research on user participation is incomplete as little if any research has been devoted to determining how widespread or deeply embedded partnerships are in the NPD process. Additionally, managerial models for the involvement of users in the new product development process are scarce (Labahn and Krappel, 2000). The purpose of this exploratory investigation is to develop a conceptual model for the management of user involvement in the early stages of the NPD process.

## Introduction

In a reality of global competition, collaboration in the NPD process is becoming an increasingly central activity for both industrial and consumer manufacturers as a means of survival and success. Empirical analyses from numerous research studies offer convergent evidence that NPD should be regarded as an interactive process in which both users and manufacturers have a significant role to play. Gruner and Homburg (2000) determined that early user involvement enhances the likelihood of product success. Maidique and Zirger (1985) found that “the development process for successful products was characterised by frequent and in-depth customer interaction at all levels” (303). Similarly, in Germunden et al’s (1992) study, which concentrates on NPD in a network context, nearly 50 per cent of companies claimed that forming relationships with customers “had been a precondition for innovation success” (367).

However, there is a gap in the research literature on managerial models for the involvement of users in the new product development process (Donaldson and O' Toole, 2002; Ives and Olsen, 1984; Wind and Mahajan, 1997; Takeishi, 2001). Research into user involvement in the initial stages of the NPD process that consists of idea generation, evaluation, preliminary assessment, formulating and testing the product concept is incomplete. Academic research on the variables that impact on user involvement such as number and characteristics of users (Gruner and Homburg, 2000), degree of formality (Labahn and Krampf, 2000), communication and information exchange (Hutt et al, 2000), resources (Biemans, 1992), existing relationships (Hakansson, 1982) have been identified but little if any research has been devoted to the extent of user involvement in the product development process and consequently how that involvement is managed (Labahn and Krappel, 2000).

Partnering in the initial stages of the NPD process is a critical yet difficult task to achieve (Gruner and Homburg, 2000). How to involve users, which users to involve, what stage should they be involved in, what should be the extent of their involvement remains critical questions for NPD decision-makers. The core objective of this research is to investigate how users interact in the early stages of new product development and to develop a managerial model for the process.

## **Major Issues to Consider in the Development of a Managerial Model for User Involvement in the New Product Development Process**

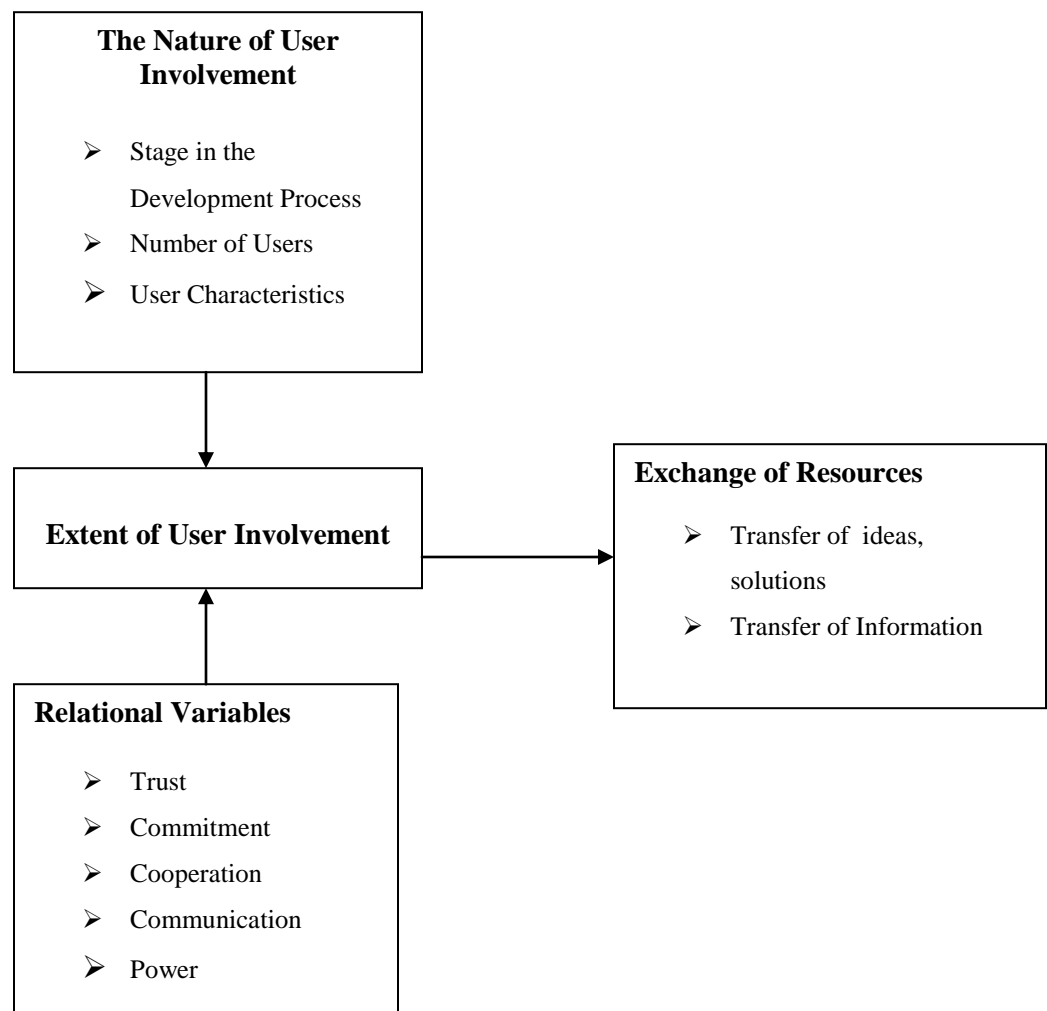
Figure 1 presents the major issues that most be considered in the development of a managerial model for user involvement in the NPD process. Successful management of the process requires an understanding of the nature of user involvement in the interaction (e.g. the particular stage, the characteristics of the user, number of users) and the behavioural variables that influence the extent of the interaction between the parties (e.g. trust, commitment, power, cooperation). The extent of user involvement in the product development process may vary widely between relationships because “in some cases the interaction may consist of no more than an ad hoc visit in order to gather specific

information, other interactions may amount to an extensive cooperation project” (Biemans, 1992: 143) A posited consequence of user involvement in the new product development process is the exchange of resources between the two parties. The major issues as outlined in Figure 1 are now discussed.

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Figure 1: Major Issues to Consider in the Development of a Managerial Model for User Involvement in the Product Development Process

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Source: Authors

## **The Nature of User Involvement**

Users can be asked to contribute to the generation of ideas, development or testing, however the identity of the users actually employed typically varies with the stage of the product development process, as does the extent of involvement (Biemans, 1992). Research in new product development indicates that the characteristics of the participants to a relationship will impact on the outcome of the involvement, explicitly, characteristics such as reputation, relative size, technological expertise, existing alliances, readiness to exchange information and similarities and differences in culture (Gruner and Homburg, 2000; Milson, Raj and Wilemon, 1996; Hakansson, 1987).

In regards to the number of users involved in the process, the literature suggests that while multiple users can contribute to the successful communication and delivery of customer requirements and hence to project success, the degree of complexity involved in the management of user involvement, increases with the number of participants (Krapfel et al 1991). Additionally, Keil and Carmel, (1995) suggest that there is a point of diminishing returns beyond which increasing the number of users involved becomes unbeneficial due to knowledge redundancy.

## **Relational Variables that Affect the Extent of User Involvement**

Foremost among the relational variables that influence the intensity of the manufacturer–user relationship is commitment and trust, as “successful alliances, like successful marriages, don’t just happen; both require commitment to make them work, and both can be destroyed by mistrust” (Morgan and Hunt 1994: 25). The extent of user involvement in the new product development process will depend on the level of relational trust between the manufacturer and the user. The relational trust results from the belief that the other is reliable and has high integrity, which are associated with the partner’s consistency, competence, honesty, fairness, responsibility, willingness to act, helpfulness and benevolence (Morgan and Hunt, 1994; Buttle, 1996). Additionally, commitment

represents the highest stage of relational bonding and will only exist when both parties to the relationship desire to maintain the valued partnership.

A posited consequence of trust and commitment is cooperation. Manufacturers and users learn that coordinated, joint efforts can achieve mutual or singular outcomes that far exceeds the benefits a firm can procure by acting solely in its own best interest (Anderson and Narus, 1990). Effective coordination of activities can only be achieved when the parties to the relationship create an atmosphere conducive to timely and frequent communication, both internally and externally (Biemans, 1992). The absence of communication can have a negative effect on relational coordination and the building of trust between the parties (Anderson and Narus, 1990).

Furthermore, the extent of user involvement can be greatly affected by the presence of a dominant party, as it may reduce expectations of a partner's adherence to agreements and perceptions of promises made, as the more powerful party will ultimately exploit its power advantage at the expense of its partner (Lebahn and Krapfel, 2000; Kumar, 1996). Pfeffer and Salnick, (1978) suggest that a dominant party can make costly demands on a weaker partner, and receive compliance as a result of their dependence on the relationship. However, the mistrust generated from the power imbalance can be mitigated or removed if there is trust between the two parties (Gansen, 1994: 4).

Relationships characterised by trust, commitment, cooperation, communication and a balance of power exhibit strong social ties, which consequently results in a high degree of reciprocity, closeness and sharing of proprietary information among the new product development participants. Additionally, underlying frictions or conflicts may be resolved amicably in relationships characterised by strong social ties, as disagreements are seen as being "just another way of doing business" (Anderson and Narus, 1990: 45). It may be unnecessary to attempt to cover all contingencies in a formal contract for sustained cooperation as "personal relationships increasingly supplement formal role relationships and informal psychological contracts increasingly substitute for formal legal contracts"

(Hutt et al 2000: 52). Reindfleish and Moorman (2001) maintain that strong social ties impact on user involvement in the NPD process because

participants tend to guard their gates carefully to ensure that valuable product – related information is not transferred to partners with whom they share low levels of embeddedness because of fears of having this information opportunistically exploited (12).

### **Exchange of Resources**

User involvement in the NPD process results in the exchange of resources between the manufacturer and the user. The exchange of resources can be conceptualised as belonging to one of the following categories (i) Transfer of information: manufacturers may interact with users to obtain information regarding the identification of the future needs of a market or a solution to a problem (Von Hippel, 1978), and (ii) Transfer of products/components: Users can contribute significantly to product development through the supply of strategic components or a complete product (Biemans, 1992).

### **Methodology and Measurement**

In order to achieve the core objective of this project, the research will utilise a dual methodology. The first phase of the research will involve a national mail survey, which will be conducted to determine the extent and depth of partnership practice. Quantifying how widespread and deeply embedded user involvement is in the development process is a necessary precursor to model development. Indeed, it may be found that within the NPD process, the level of user involvement is low, which would have key policy implications for the use of partnering models and would provide an impetus for the use of the managerial model developed in the current research.

Problems have arisen in locating suitable measurements for the extent of user involvement in the different stages. Reliable and valid measurements of complex constructs, such as the extent of user involvement have not been a primary concern in research on new product development. With respect to the research conducted in this area, there is a methodological gap; a literature review unveils a deficit regarding

quantifiable research as opposed to the large number of qualitative studies being undertaken. This deficit has resulted in the stagnation of scale development and validation in this field of research.

Phase two will utilise case study research in cooperation with four organisations and their NPD partners. The methodology of the case study is to interview most of the individuals in the partnership using a semi-structured questionnaire. Following the case study method as posited by authors such as Yin (1993), Patton (1990) and Eisenhardt (1989) should provide the researchers with an understanding of the dynamics present within the setting of the product development relationship. Subsequently, the findings from the survey and the case study research will be utilised to advance the development of a managerial model.

## **Conclusion**

Preliminary findings from the national survey and case research will be presented at the conference. Research in to user involvement in the early stages of the new product development process is incomplete; firstly, research is needed to determine the extent to which users are actually involved in the process. Additionally, management models of the process are scarce, academic research on the variables that impact on user involvement provide a partial explanation, but are not sufficient without an understanding of how users interact within the development process. The literature further reveals that measurement development has stagnated as a result of the large number of qualitative studies being undertaken. Finally, this study should not only augment the current literature, but should also provide organisations with a practical guide to best practice in the area of product development.



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