Democratizing the New Product Development Process: A New Dimension of Value Creation and Marketing Concept

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Abstract

This paper theoretically examined how key success factors (KSFs) of new product development process, as a new dimension of marketing concept and value creation, could be exploited through learning outside the firm or through customer involvement in key stages of the development process. Such collaborative relationship- though suffers scholarly neglect in Nigeria, costly and perhaps difficult to apply and more profound in B2B than B2C transactions- is benefiting in terms of manipulating the environment to a firm's advantage through having products that exactly meet the aspirations of the world of customers, though consumers are erratic and rarely verbalize their needs with precision. All things being equal, user involvement reduces large inventories and distribution costs, minimizes product returns, builds strong customer relationships, matches production with consumption patterns, promises customer willingness to pay premium price, makes managerial decisions flexible, and above all achieves the ideals of TQM, and perhaps marketing concept. However, different firms benefit from different forms of user interactions subject to top management idiosyncrasy, market power, and competitive environment. Often the extent of disruption on established behaviour pattern (e.g.; radical and incremental concepts) determines the measure of customer interactions. SMEs follow distinct action rationality, leading to rapid implementation of some user inputs, and defensiveness towards others and larger firms are more exposed to user inputs because of their supposedly huge and better resources, yet less committed to execute it. Therefore, this paper developed a model of designers and users involvement based on literature. It joins other similar papers to raise alertness on facilitating the spread, and actual implementation, of user involvement philosophy in radical and incremental innovations irrespective of the industry and other environmental variables.

Keywords: User collaboration, Value creation, New product, Innovation, Developers, Marketing concept, Democracy

1. Conceptualization

Perhaps the culture of customer focus or user collaboration as a key to implementing TQM approach is one of the nascent, topical, and pragmatic issues of strategic management frontier that has recently earned ample scholarships in United States, Canada, United Kingdom, and even India. Firms desire to launch innovative products to minimize conformance risks and maximize profits and perceived values in the present competitive business world (Awa, 2003; Baxter, 1995) perhaps through user collaboration from the initial stage of idea generation to commercialization (Kaulio, 1998; Ciccantelli and Magidson, 1993), especially at specification, conceptualization, design and engineering and prototyping phases (Kaulio, 1998; Chan and Lee, 2007). Often firms judge the superiority or excellence of their skills, technologies and other facilities, as they relate to conformance values and translate same to reflect favourably on perceived values in order to maintain and/or improve profitability. Learning the world of 'user communities' and integrating it into the decision-making process, link the two extremes in the most participatory manner. User product collaboration represents a populous catchphrase in innovation research and practice (Heiskanen and Repo, 2007), which provides modern trend of 'user communities' and reflective commonalities between users and developers on satisfaction and profitability respectively. The prevailing dynamism of business environment no longer permits developers to produce and manage knowledge unilaterally; rather they need to co-create knowledge with their customers. 'User collaboration innovation communities' provide organizations with surprising innovative capabilities and innovative management models based on their needs (Chan and Lee, 2007) and therefore, challenge developers to re-inspect and retool their corporate policies on innovation structure to reflect environmental demands.

The cradle of customer collaboration may be traced to the works of Jean Jacques Rousseau, John Locke, and other 18th century political philosophers, who view citizens as active clients or electorates bestowed with rights to influence business or political decisions that affect them. Many authorities narrow its route directly to the ideals of the marketing concept, consumer behaviour theories, marketing research, and relationship marketing; and indirectly to democratic theories, social mobilization, and the new public management school of thought.

These routes are seemingly same as both describe user collaboration as a mechanism by which the ideas and opinions of interested and affected persons/parties are sought and reflected in the decision-making process of an agency or collaborative entity. Customers are integrated into firm's value creation by defining, configuring, matching, or modifying solutions. One key ideal of user collaboration over the aforementioned direct and indirect routes is that consumers are more involved in both operational and innovational value creating activities as if they are under the control or employment of the developers and may receive incentives more than just the right products for their inputs, product supports and viral role. Traces of these thoughts are evidenced in the Finnish Consumer Policy Programmes, which asserts that activation and empowerment of citizens has the characteristic of building active and competent consumers as a focal point of all management decisions (Saastamoinen et al, 2007). Motorola, Dell Computers, Hewlett-Packard, General Motor (GM), Toyota, and Procter and Gamble (P&G) are among the firms that are experimenting and/or implementing the process in their production and operations facilities. Empirical evidence demonstrates the dangers of developers generalizing broader population of user communities based on their experiences (Oudshoorn et al, 2004) and identifies user collaboration as a key success factor (Brown and Eisehardt, 1995), especially in a competitive environment. Ogawa and Piller (2006) opine that the rapid change in consumer needs, competition, technology, and consumer diversity in demand have made it imperative for firms to reposition their operations to suit consumer novelty. Further, changing cultures, politics, and economics of modern life deeply affect the industrial environment in favour of consumers (Lowson et al, 1992) as many firms are more sensitive about the perception of buyers and even non-buyers, whether existing or new, to minimize the risk of product failures, reduce development time, and maximize profit (Cooper, 1993; Rahman and Baksh, 2003). User involvement reduces large inventories and distribution costs, minimizes product returns, builds strong customer relationships, identifies customer preferences (Bae, 2005) and promises customer willingness to pay premium price for realized benefits.

The motives of such collaboration to both actors though not compulsory, according to Heiskanen et al (2007), are expressed in terms of usability, profitability, and functionality improvements; enhancement of utility and enjoyability of products; opportunity to generate good ideas and energy to develop and improve upon innovations. Although this collaborative relationship is more profound in B2B than in B2C transactions (Thomke and von Hippel, 2002), it assists in development of products that better, or exactly meet the needs (Jeppesen and Molin, 2003) though that costs a lot to consumers and developers in terms of expended resources (Jeppesen and Molin, 2003; Heiskanen and Hyvonen, 2006) perhaps without automatic improvement on the designers' results (Heiskanen and Hyvonen, 2006). Magnuson (2003) observes that for Web-based participation, such cost could be reduced, especially in digital products. The purpose of this paper is to add to the growing body of knowledge in repositioning the links between the success of innovative concepts and the democratic roles of developers and users. This is approached by reviewing the theories of user collaboration; the change in consumers' participatory roles; the roles consumers play as users, resources, and co-creators; and finally a model was developed to depict our understanding in line with Kaulio's (1998) framework.

2. The Theory of User Collaboration in New Product Development

Studies have empirically shown a strong correlation between the success of new product development and the extent of direct interactions and relationships between Research and Development (R&D) staff and user publics (Berthon et al, 2004; Souder et al, 1998). This finding debunks the ideals of selling and production concepts in favour of the new dimension of value creation and marketing concept, which emphasizes on deep and continual interactions between developer and customer in all stages of product development process (Kaulio, 1998; Sherman et al, 2000) as if the latter is under direct control of the former. Rather than hard-selling unilaterally made products, user collaboration builds strong interactive relationships that stimulate developers' understanding of the world of consumers and reflecting same in managerial actions. Kotha (1995) surveyed a bike firm and used his findings to link mass customization and mass production strategies to maximization of competitiveness. According to Gupta and Souder (1998), early stages of customer participation in new product development is assumed an important contributory success factor. In their survey of focus groups in apparel industry, Anderson et al (1997) identified four contexts by which consumers show interests in participating in the design of clothing. The contexts include copying clothing currently owned, totally custom, co-designing with a trained person, and selecting from a set of opinions or component choice. Fiore et al (2001) did a similar study and found that consumers prefer to participate in mass customization of products (i.e.; jeans, swim suits), product features (i.e.; fit and size) to a greater degree; and colour and garment details to a lesser degree. The survey of Huffman and Kahn (1998) evaluated consumer ability and interest in making choice amongst extensive products and concluded that consumers are more satisfied with selecting attributes within a choice set than having extensive or few choices.

Kaulio (1998) extensively reviewed methods of customer involvement; proposed the models of design for, design with, and design by, to reflect the weight of participatory roles played by customers; and noted more consumer participation in such development phases as specification, concept development, and prototyping, and less participation in detail design and final product. Design for involves extensive use of market data, focus groups, interviews, and consumer behaviour models to design products on behalf of customers; design with makes use of data on consumer needs and reactions/suggestions on prototyped products; and design by extensively involves consumers in the design and development of the final products. Leonard-Barton (1995) proposed four modes of user-involvement that seemingly correspond to Kaulio's (1998) and concluded that average time expended in product development process is shorter when users are aggressively incorporated in the entire exercise. Interactive relationships with customers provide detailed information on key success factors (KSFs) lacked internally and reduce development time and costs (Campbell and Cooper, 1999). In Leonard-Barton's model, consultancy mode aligns with Kaulio's *design for customers*; co-development mode with the strategy of *design with customers*; and apprenticeship mode with *design by customers*. The extent of customer participation in each phase of development reflects whether the innovation is a radical and glamourous or semi-skimmed and incremental. For the latter or what Robertson (1967) refers to as continuous innovations and dynamically continuous innovations, corporate challenges and consumer involvement are relatively less complex because established behaviour pattern is not wholly disrupted. The cost of launching an entirely new product in some consumer markets is enormous (Brown, 1985; Tauber, 1988) thereby attracting widespread innovative products as extensions and improvement upon existing ones. Nielsen (1985) records that between 1977 and 1984; approximately 40% of 120 to 175 new brands introduced into supermarkets annually were extensions. For the former, consumer involvement attracts further complexities. The complexities are often expressed in terms of users not knowing exactly what their requirements are for innovations that demand changes in established behaviour patterns or open up new applications (O'Connor, 1998); and in terms of its costly nature, resulting to aggressive search for information as well as information processing itself competing for scarce resources. Users are not always the primary customers of disruptive innovations (Heiskanen and Repo, 2007) as they often resist to totally novel concepts that challenge or disrupt value networks, established behaviour pattern, and industry practices. Ivory (2004) recognizes cases where user benefits and enhanced product performance are not prerequisites for competitive advantage.

Often new-to-the-world and full fat innovations are discarded because users never appreciated their benefits (O'Connor, 1998), yet many of such disruptive concepts have attracted the least competition and potentially transform the value networks to the designer's advantage (Tushman and Anderson, 1986; Tornatzky and Fleischer, 1990). For instance, E-Mail, DVD, Computer, Digital Cameras, Automated Banking and Computerization, are among the successful innovative concepts that disrupt established behaviour patterns and competition in their respective industries. The designers and/or promoters of such innovations exploit strategic advantage via aggressive search for markets, whereas those that fail to innovate continue to satisfy the existing markets (Christensen, 1977). Garcia and Calantone (2002) describe radical innovations in terms of new to the industry, new to the firm, and new to customers. New to the industry supports the work of Cooper et al (1974), where they report that technology pervasively transforms an industry and perhaps ushers in new casts of competitors, who use the competencies developed outside to exploit the leapfrogs of incumbent industry players.

New to the firm innovations relate to those that may exist presently, or have existed, in the marketplace perhaps from competitors. This approach compromises the ideals of stimulus generalization theory of Professor Ivan Pavlov, and has proved very profitable when the original company has made exploitable name in terms of performance, economy, technical know-how, durability, etc (Awa, 2003) . Finally, new to the consumers innovations have impacts on users depending on the degree of learning and adoption efforts expected of them, rather than on the newness of the concept itself (Heiskanen and Repo, 2007). In their survey of the IT industry, Christensen et al (2003) report that markets for disruptive innovations are found among non-users (people that lack access or resources to use existing products) or among *overshot users* (people unwilling to pay for extra performance improvements and who represent targets for new entrants with disruptive business models characterized by cheaper and simper solutions). *Undershot users* (people frustrated by the current product's snags and are very much willing to pay for refinements) represent a typical target for firms focusing on sustained innovations that are not disruptive.

3. Critical Analysis of the Changes in Consumers' Participatory Roles

The tenet here is to unveil relevant theoretical positions of scholars on the change of consumers' roles and the significance of such change to building organization's knowledge that enhances the creation of innovation of business values. Ancestor researchers point out that the concept of value chain will be replaced by the value

innovation systems of the value constellation and the businesses no longer play the same role as they did in the past (Chan and Lee, 2007). Prahalad and Ramaswamy (2004) note that firms do not act autonomously in their operations again; designing products, developing production processes, evaluating marketing messages and controlling sales channels with little or no consumer interference. The ultimate test of product innovation is consumer response (Pitta et al, 1996), which revolves around fighting costly product failure via a clear understanding of customers' voice and reasons that form their preferences (Hanna et al, 1995; McGuinness, 1990). Conversations between consumers and developers is now more aggressive, no longer controlled and initiated wholly by the latter, and consumers themselves can discuss, brainstorm and learn business related knowledge that could be applied by developers. Heiskanen and Repo (2007) note that developers are in desperate need of intensified interactions with, and knowledge of, their users; they often visit users and use ethnographic observations to understand their world. Or users may join developers at the 'drawing board,' for instance, by participating in user groups (Tommes et al, 1997). With the advent of modern interactive technologies such as Internet, user communities easily interact with developers and make production process flexible to meet their unique requirements. In their work, Chan and Lee (2007) observe that consumers are gradually stepping out of their traditional domain and turning simultaneously into both creators of values and consumers and becoming competitors to developers in creating values. Strategic minded firms harness the creativity of their customers and blend it with their own dynamic capabilities to co-create products, solutions, communications, and experiences. Consequently, to reduce uncertainties of new product development process (NPDP), consumers are actively involved in the entire process (Kaulio, 1998; Lundkvist and Yakhelf, 2004; Hanna et al, 1995; Ciccantelli and Magidson, 1993) though different firms observe this collaboration at different stages of NPDP (Lagrosen, 2005).

This new turn of NPDP benefits the users as input and output parties (Finch, 1999; Kaulio, 1998; Gersuny and Rosengren, 1973). As an input party, the consumer occupies upper stream of being a resource, an innovator, and a co-creator/co-producer. Bae (2005) opines that as a co-designer, the consumer uses the firm's capability to create an individualized solution. And as an output party, the customer occupies the lower echelon of being a buyer, a user, and an advocate. The consumer provides contextual information, serves as a source of new product ideas and partner in the product development process, or provides useful feedbacks (Heiskanen and Hyvonen, 2006). For firms, adherence to customer inputs at each successive stages of NPDP assists them to maximize competitiveness (Kotha, 1995), especially by making better products.

Empirical evidence shows the dangers of excessive extrapolation of experiences and its successful applications as well as some caveats along the benefits of user involvement. There exists no definite relationship between the level of user participation and the success of a project (Leonard-Barton, 1995; Bidault and Cummings, 1994). Ogawa and Piller (2006) argue that with exception of Procter and Gamble (P&G) and Unilever, consumer products in the Fast Moving Consumer Goods (FMCG) industries rarely involve customers in the stages of product development on accounts that consumers are very difficult to predict. Often consumers do not know what they actually want from a product (Ciccantelli and Magidson, 1993) perhaps because they find it difficult to verbalize their needs (von Hippel, 1998) and thus rely heavily on others for purchase decisions. The diffusion of communication and IT facilities notwithstanding, Dolan and Mathews (1993) address limited customer experience and ability, customers' passive behaviour as well as limited time and professional knowledge as some of the reasons why user-involvement may not automatically guarantee business success in some economies. Even before an innovation is introduced, consumers show likelihood of diverting to others (Ogawa and Piller, 2006; Lagrosen, 2005), forcing many firms to resort to incremental or semi-skimmed innovations, which promises the least disruptive influence on behaviour pattern. Trott (2001) argues that firms like IBM, Apple Computers, and Xerox listened to their customers yet lost their market leadership, which, to some extent, suggests that it is not always operationally effective to listen to consumers in all circumstances. Purchase intentions survey may be inadequate in predicting sales volume (Heiskanen and Hyvonen, 2006) due, in part, to the fact that people attempt to provide information they think pertinent to the inquirer's needs, rather than probe deep into their own preferences (Ciccantelli and Magidson, 1993). Along the shortcomings, Saastamoninen et al (2007) note that the application of the user community collaboration does not self-evidently mean that users are adequately represented in innovation design, or does lack of it automatically means users' total absence from the design.

User community collaboration requires intensive management in order to strategically synchronize the excess raw data drawn from field studies and ethnographic observations, and to minimize disruption in development cycle (Kujala, 2003). Subject to the distance between designers and users (Heiskanen and Hyvonen, 2006) in terms of costs and levels of disruption in established patterns, extrapolation of user requirements from designer's experience may be regarded a good strategy. The methods of user involvement have been vigorously and

comprehensively surveyed (Saastamoinen et al, 2007) and firms with limited resources carry out lightweight short-term exercises on it since it is arguably better than doing nothing at all (Saastamoinen et al, 2007; Christensen, Anthony and Roth, 2003). Caution should be exercised in the use of lightweight user involvement to avoid developers viewing the entire process with bias. For extrapolation to be cost-effective amongst firms with light resources Christensen et al (2003) observe that early users need to have similar skills and preferences to the designers' products. Further, they warned that to expand this business model into mass market, where user contexts and requirement may be very different from the niche market may attract problems.

4. Customer Role as a User, Resource and Co-creator

User community involvement in product development process, especially in idea generation, product conceptualization, and prototyping, has earned wide scholarship (Christensen, 1997; Kaulio, 1998; von Hippel, 1998). It often permits the minimization of product returns, holding costs, machine idle time, and distribution costs based on database information from the result of product tests and product support. As users, the customers are the targets of pre-and post-testing exercises and thus, play significant roles in reshaping and repackaging the original marketing programmes. Further, users exploit their accumulated product usage experience, in the form of word-of-mouth, to reduce the perceived risks of others. Such firsthand experience is assumed more credible and provides more mutual product support than the mass media. The onus is on firms to aggressively move customers up the hierarchy of relationship ladder of customer loyalty from prospects to new customers, then to regular accounts, loyal supporters and finally to advocates, who do not only buy but also convince others to buy. With the aid of Internet facilities, firms can cost effectively develop multiple interactive relationships amongst customers to build product support. Nambisan (2000) is of the view that firms encourage mutual assistance amongst customers in a community by assigning certain positions to certain customers to stimulate their willingness to offer product support.

Firms strategically select customers based on their individual difference factors, situational variables and other relevant factors in relations to their consumption patterns of the firm's offerings and establish appropriate interactive relationships with them in an effort to exploit 'toolkits of customer innovation' for creating and improving value networks. User collaboration demands more efforts than before from developers and users. Developers vigorously seek to formulate policy mechanism that cognately boost customers' willingness and on-going relationships, perhaps in a personalized manner, to offer ideas on new product development process. They assume the role of tutors and/or instructors (Chan and Lee, 2007); training the consumers as though employees by assisting them to become more aware of their needs and to reveal same as accurately as possible to reflect management actions (Ciccantelli and Magidson, 1993). This is rather difficult. Pitta et al (1996) observe that unless the units are under the same commander's control, they rarely act as a whole, especially in offering information about, and co-creating, innovations. The weakness does not lie in the courage, intelligence, or motivation of the troops rather in the difference of control structures since the consumers are not the firm's employees and therefore are not obligatory to be penalized for not co-operating.

Although tremendously costly and time consuming, developers collect related information on consumer demand through many channels- consumer idealization, participatory design, empathic design, focus groups, beta tests, lead-user community, etc. Studies show that traditional market research technology rarely offers in-depth and complete information about consumer demand structures perhaps because consumers themselves are not static in their consumption behaviour. Even at that, observers still question how varied consumer inputs could be synchronized and integrated into designer's world, especially when the product is not yet in existence. Thomke and von Hippel (2002) observe that turning customers into innovators is besieged with uncertainties and therefore a new supervisory and control management mechanism is urgently needed to assure quality and efficiency of development and to effectively integrate customers and the internal development team. Aside product development team that exhibits subtle structural influences in sharpening the inputs (Ciccantelli and Magidson, 1993), strategic efforts require the use of modern and advanced information and production technologies and models whose application to building competitive edge and solving consumers' exact problems is made simpler with the advent and diffusion of Internet technology. The Internet technology improves the depth and breath of user community participation on individualized manner, though Dahan and Hauser (2002) accused businesses of exploiting its attributes only to seek customers' potential demands rather than involving customers in creating product values.

The physical distance between developers and user communities show that both may have incongruent goals and interests in the participatory exercise. Presumably, they expect some direct pecuniary (Jeppesen and Frederiksen, 2006) and non-pecuniary compensation in returns for the expended resources to be able to become related

technology experts. The most apparent gains to consumers for exploiting their skills and expertise in product design process, among others, include improved satisfaction, peer recognitions, exercising creativity (Jeppesen and Molin, 2003), perhaps employment, building reputation for oneself in the field (Jeppesen and Frederiksen, 2006), and assurance of representation of the views of their own reference groups (Saastamoninen et al, 2007). Both parties must consider their expectations from the co-operative relationships and reach a compromise in order to encourage overlaps in goals and interests. Sawhney and Prandell (2000) note that efforts are often made to boost commitments by developing a common language or technological networks for both, especially where consumers' fears to co-create knowledge lie on lack of learning capability, distrust, and absence of motivation. For instance, dialogue between firms and their customers through construction virtual space or toolkits for consumer innovation may reduce consumers' expended time and effort, as well as their willingness, to obtain and share business knowledge. Also, such networks improve the quality of customers' knowledge and understanding of the operationally implemented knowledge. Further, current and antecedent behaviours as well as future programmes and events of the firm should generate customers' trusts capable of culminating into co-creation of knowledge; and finally, reasonable part of the trust spans the reliability of, and customer value for, the compensation packages billed to encourage co-creation with developers.

5. Developed Model of User Communities Involvement in NPDP

Models are replicas or representations of ideas, actual and/or real world systems- either physical or abstract (Awa, 2003). Figure 1 depicts nine interacting stages within four phases (pre-development and development, launching, evaluation, and feedback) of customer collaboration in product development. The pre-development and development phase integrates customer database, analytical frameworks, strategic market planning, capability and process development and/or improvement, technology and skill acquisitions, manufacturing of prototypes and final concepts, and other related issues of strategic importance. The launching phase involves actual execution of the improved marketing programmes (the 4Ps) on a national basis or in a market setting that is as normal as possible. The extent to which launching reflects the results of market tests determines its success. Evaluations relate to all activities from idea generation to commercialization, including the extent to which the marketing programmes enable the consumers to solve their problems and finally, feedback reports the outcomes of evaluation exercises to top management for timely decision-making.

The entire process of customer commitment in development process, as shown in the figure, starts with understanding the needs and aspirations of the target publics via market orientation using market research and later market tests, and incorporating these needs and/or improvement upon them, into the organization's decision structure to determine the best approach management can support it. The framework of Kaulio (1998) assists to understand the types of customer involvement (e.g. lead users, consumer idealized design, focus groups, beta tests, etc) and phases of design process (e.g. design with, design for and design by). For instance, consumers are actively involved at the early stages of idealization design and the later stages in Beta tests. Some of the types of consumer involvement are discussed below to boost understanding of joint product launch Note that one of the key ingredients to innovative concept's success is the level of top management support. Subsequently, the generated information are evaluated and passed on to the multifunctional development team, who co-ordinates and champions the conversion of ideas to real life product and the development exercises. Actions are continually reworked from the results of joint evaluation and feedback exercises in order to further the competitive balance of management decision.

5.1 Lead Users

Many innovative concepts originate from customers (lead users) who have future needs/requirements (von Hippel, 1998) that could be incorporated into the body of knowledge used in consumer satisfaction or used as technical support to satisfy others facing similar problems (Pitta and Franzak, 1977). This group of customers are actively involved in finding solutions to their problems and convey needs that will be in marketplace before majority comes to know and/or learn about them (Kaulio, 1998). Further, Pitta and Franzak (1997) observe that such customers are educated; cosmopolitans and highly experienced in a product because they consistently use it; its quality and other attributes are well known to them. Kaulio (1998) discovers that lead user method undergoes four processes- specifying lead user indicators, identifying lead user groups, generating products with lead users, and testing lead user concept on ordinary users. He further notes that the most important issue is to how best to select user indicators and lead user. Urban and von Hippel (1988) survey the software industry and found that 87.6% of customers are ready to accept products designed by companies and lead users. In contrast, Pitta and Franzak (1997) note that lead users are complicated in their information needs, and because they may be the first to report the problem, they do not seek for support that can easily be searchable anywhere.

5.2 Consumer Idealization

Consumer idealized design represents a more recent interactive technique, which is somewhat similar to focus group though both differ in several ways. Often best suited for consumer products, this method elicits relevant information from customers about their requirements from a product and new solutions to a problem, though its success depends largely on the skill of the facilitators. Ciccantelli and Magidson (1993) characterize the method in terms of its requirements of an entire day, innovation and interaction from participants, task orientation and the use of competition amongst participants to attain performance, and group to articulate and design an ideal product in a designated product category. The method offers more insights into consumer needs than focus groups and can be used at the idea generation stage of NPDP. It is limited, in part, by its short-run nature; a single day, and its use of a small number of participants (Pitta and Franzak, 1997). Further, the method falls short of on-going interactivity and cost effectiveness, which sometimes make consultation with retailers a substitute for consumers. Retailers maintain more interactivity with customers that may benefit manufacturers though many strategic firms are also integrating suppliers fully into their NPDP, to have a better result.

5.3 Focus Groups

Product development process involves some kind of consumer research to learn consumer preferences and/or to validate internally generated ideas.

Focus groups of target audiences represent the most popular technique of such consumer research. It involves a few hours study of a representative sample of the target market, under the direction of a moderator, with the intention of generalizing their thoughts about the developers' products. While focus groups data can benefit the NPDP, they provide limited interactivity. Also, focus groups may be guilty of the *12 angry men* syndrome, where one group member may sway the opinions of the rest and destroy the group's representativeness (Pitta and Franzak, 1997)

5.4 Beta Tests

Beta tests represent another technique to elicit consumer information in NPDP. According to Pitta and Franzak (1997), they originate from the computer industry and indicate the first stage of consumer product testing, which follows in-house consumer usage testing, referred to as alpha test. Beta tests offer a potentially valuable test of product features and benefits with real consumers and ensure the products meet the specifications expected of them by the consumers and ensure the products meet the specifications expected of them by the consumers through prototyping. The major strength of Beta tests is that they offer more realistic market test through permitting consumers to freely play with the products without direct supervision in order to unveil unforeseen problems or adverse interactions that were identified during in-house testing. Often used more frequently by consumer package goods firms, Beta tests do not help in recognizing ideas for new products rather they offer opportunity to generate information on salient product features, which might be useful for product requirement.

5.5 Concept Testing

The essence of concept testing is to ensure customer needs are adequately understood, interpreted and translated before final product adjustment is contemplated (Cooper, 1993). The concept which can be presented in a physical or symbolic form tends to resemble the final product. Kotler and Keller (2006) assert that the more the concept relates the final product version the more reliable the concept is likely to be where focus groups are used. Concept testing does not measure the true purchasing behaviour of people and does not provide quantitative estimates of profitability, sales and other relevant information associated with product decisions (Ogawa and Piller, 2006). Kaulio (1998) notes that concept testing should be complemented with Beta tests to be effective.

6. Conclusion

This paper vigorously examined the theoretical virtues, and perhaps the drawbacks of customer involvement in developing, and/or launching, of new products in a competitive environment. Much scholarship in this seemingly virgin area though proliferates from the Western World, made it implicit that improved interactive relationships with user communities provide firms with detailed information on internally lacked key success factors (KSFs). While it is explicitly obvious to subscribe to this nascent interpretation, it is equally assumed that raising firms' alertness to techniques, models, and approaches for user involvement exposes them to rare opportunities of getting closer to users, learning more about their ideals, and launching more successful innovations. Though costly and difficult to apply exercise, interaction with users provides feedbacks, timely identifies marketing mix improvement needs, and serves up a wealth of contextual information and product ideas. Such interaction serves to energize product development process, to push it forward to the next stage, and to stimulate thoughts about its market launch. However, where the exercises in user involvement do not improve firm's operations or result to

negative outcomes, then the problem may be traced to methods, thereby fostering the exploitation of the more sophisticated methods, which perhaps promise more authenticated results than traditional market research. This phenomenal development holds even as consumers are often accused of having leapfrogs in expressing and verbalizing their needs and aspirations from a product.

It is a condition that researchers and practitioners wishing to promote user involvement must adequately grasp the firm's internal and external barriers and drivers to its use. The internal barriers reflect addressing the role of action rationality and sense-making processes in integrating user inputs into product development; and the external barriers centre on close analytical address of the state of nature in order to identify situations that permit more or less utilization of user involvement. The usual genuine conflicts of interest between designers and users does not erase user involvement in operations rather it reinforces the practitioner's bids to reconsider broader circumstances in launching their inventions to ensure alignment of interests perhaps through influencing operating environment. Further, the mode of designing user involvement is central and different kinds of firms benefit from different forms of user interaction subject to their environment. For instance, SMEs follow distinct action rationality, leading to rapid implementation of some user inputs and defensiveness towards others; and larger firms are more open to user inputs yet less determined to execute it (Heiskanen and Repo, 2007). For incremental and semi-skimmed innovations, there is less complexity in customer involvement and use of his inputs, making for the minimal costs and the least disruption on established behaviour pattern. Whereas, radical and glamourous innovations attract further complexities resulting from customers' resistance to totally novel concepts that challenge or disrupt value networks and established behaviour pattern, culminating to high users' costs expressed in aggressive search for, and processing of, information leading to reduction in perceived risks. However, good design of user involvement exercise promotes, but does not ensure, the implementation of users' suggestions and requirements since the issue of implementation depends largely on the firm's interest, extent of disruptiveness of the concept on behaviour and competitive position. In general, user involvement is heavily facilitated and constrained by top management idiosyncratic givens, market power, and the demands of competitive environment.

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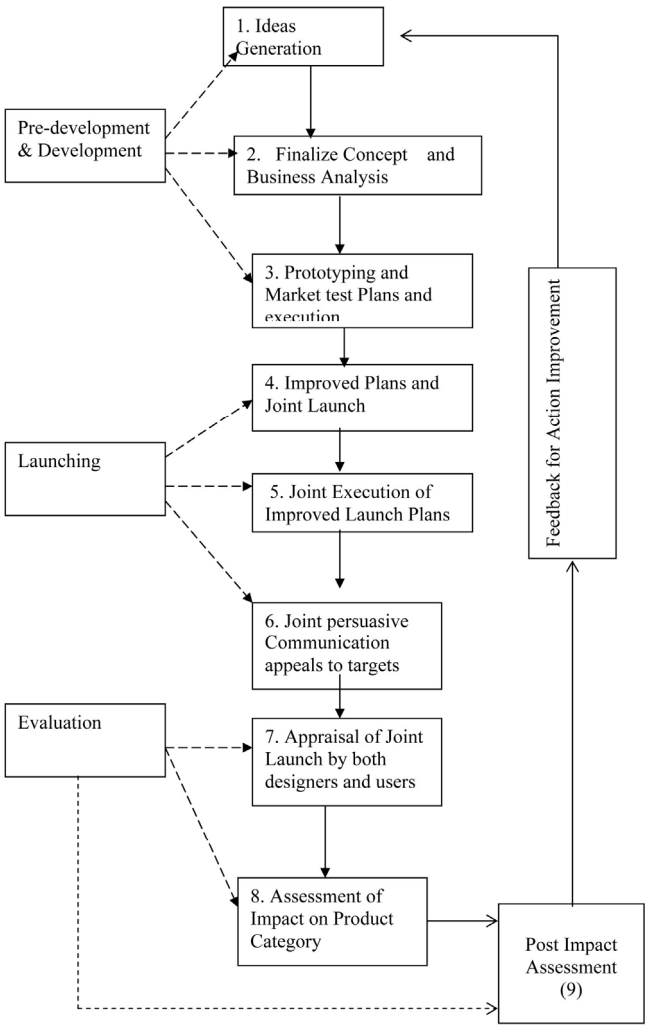

Figure 1. Model of Designers and Users Collaboration in Launching of New Products