



RESEARCH ARTICLE
**RELATIONSHIP BETWEEN NEW PRODUCT CHARACTERISTIC AND SALESPERSON
ADOPTION IN MANUFACTURING FIRMS IN KENYA**

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ARTICLE INFO

Article History:

Received 15th, December, 2013

Received in revised form 25th, December, 2013

Accepted 14th, January, 2014

Published online 28th, January, 2014

Key words:

ABSTRACT

This study examined the relationship between new product characteristics and new product adoption by the sales force. The specific objectives of the study were to examine the relationship between new product characteristics and product adoption by the sales person. The design of the research was cross sectional survey using the questionnaire to collect data. The target population was 250 sales managers and 550 salespersons, the sample comprised of 122 salespeople judgmentally sampled and 64 sales managers who were randomly sampled from manufacturing firms in Kenya. Data was analyzed using descriptive and inferential statistical tools. The findings show that there is a high correlation between product characteristics and product adoption by the salespeople. Specifically, relative advantage, compatibility, trialability and communicability showed strong correlation to product adoption by sales people while complexity had no significant relationship with salesperson adoption. The product characteristics significantly influence the adoption of products. Relative advantage is the best predictor of an innovation's rate of adoption and is positively related to it. New products that are compatible with user's previous values and its current practice are adopted. Complexity affects sales force adoption as the salesperson takes a long time and great effort to learn the new product well enough to explain it to customers. Innovations whose result can be seen and communicated are more easily adopted than those which are difficult to be communicated. For an innovation to be successfully adopted and used, the users must become aware of the innovation and know its benefits. A long term perspective can be achieved as immediate results can be balanced with long term sales relationships and outcomes. The salespersons should be motivated through offering of tangible rewards that will offer a sense of accomplishment, self actualization and self worth.

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INTRODUCTION

Product innovation is the most important driver for competitive success. The success of new products determines the survival of companies. The chances and extent of an organization adopting an innovation depends on the characteristics of the innovation as perceived by the adopting firm (Premkumar *et al.*, 1994). The sales force adoption is critical to final customer's adoptions (Di Benedetto, 1999). The sales force direct contact with the customer influence the final success of innovations. Past studies show that firms often fail to adjust their control systems in a way that provides the appropriate incentives and rewards for their salespeople to sell new products. Product complexity causes uncertainty and anxiety in the selling process for salespeople (Atuahene Gima 2000). New products can be complex and the salesperson may not have the time, or access to training to develop the necessary product knowledge (Rackham, 1998). Salespeople's adoption of innovations is different from consumers' adoption because salespeople tend to adopt innovations in a more or less 'forced' manner (Ram and Jung, 1991). Once the customer overcomes resistance to innovations, consumption takes place, while the salesperson may have some resistance even after adoption because of the 'forced' nature (Ram, 1987; Ram and Jung, 1991). The "forced adoption" can

cause innovation resistance to change. Forced adoption occurs when individual has no choice but to adopt an innovation as a member of the organization.

Successfully launching a new product to the company's sales force requires the same high levels of creativity, energy, and managerial insights as does the products launch into the market place. Ensuring sales force adoption of a new product requires careful consideration of the characteristics of the product, the competing environment, the firm, and the members of the sales force. To ensure an effective sales force, firm's employ sales force control systems to direct, train, evaluate, and compensate their salespeople (Anderson and Oliver 1987). Anderson and Oliver (1987) posit that behavioral control systems have a positive impact on a salesperson's long term job outcomes because it focuses on the salesperson's ability and positive attitude. The long term health of many organizations is tied to their ability to innovate and provide existing and new customers with new products and services. The firms that do not engage in continuous innovations can find itself behind competition. Innovations are very risky and expensive. Due to the current trends of market uncertainties and rapid changes in technological advances, marketing new product places unique demands on market participants in the adoption process. For diffusion to take place

among the customers, a firm needs to consider adoption by its sales force is successful because salespeople are the first line customers of the new product and they must “buy” the new product in order to sell it efficiently (Di Benedetto, 1999). Most of the previous research on adoption of new product concentrated on customers (Gatignon and Robertson, 1986; Rogers, 1983). Studies by Moriarty and Kosnik (1989) noted that the salespeople are very important during the new product launch, while Di Benedetto (1999) reported sales force skills, resources, effort and commitment towards selling, and training distinguish between successful new product launch and unsuccessful. Launching a new product requires many changes, the management and sales organization has to make changes, the salespeople may resist changes by management, by showing dysfunctional behavior towards management and organizational changes and the product. In spite of the many studies done in new product adoption, results have varied with many diverse characteristics studied. Atuahene Gima, (1997) measured newness of product to customer as a characteristic of innovation.

New product is important to the salesperson in many ways. It opens a new market, many customers opportunities are created, and offers new selling experiences. Selling new product increases the value and reputation of the salesperson in the organization. However, selling new product is much harder than selling existing products (Brewer, 1996). The salesperson may view a new product as being detrimental to their current activities as management may increase quotas, new calls for selling to new and unfamiliar prospects, and the rewards may not compensate the extra effort and commitment (Rochford and Wotruba, 1993). The salespeople may also fear that the new product may not satisfy customers, affecting their relationship, thus resent to expend extra effort towards the new product (Anderson and Robertson, 1995). The salespeople may ignore selling the new product or hamper its growth by under representing it in the market (Rochford and Wotruba, 1993). The organization needs to make managerial changes when launching a new product to facilitate the effort and commitment of the sales force (Brewer, 1996; Wotruba and Rochford, 1995). The successful launching of new product depends on the adoption of the sales force.

Spanning boundaries between the company and customers, the sales force plays a significant role in the success of new products. The sales force plays a vital role in the communication of product related information to a firm’s customer base, and it is expected that the sales personnel affect customer’s perceptions of a firm’s product and ultimate buying behavior (Anderson and Robertson, 1995). As a result, companies invest substantial resources on the research and development, manufacturing, and marketing of new products. However, the rate of new product failure is still high (Montoya- Weiss and Calantone, 1994). The importance of new products, may lead firms to over manage the sales force by using control systems to dictate performance of particular activities related to the introduction of products. The choice of control system has a major impact on the extent to which the sales force views and values the product and exerts effort to sell. The sales control system influences the salesperson’s choice of investing resources to develop markets for new products versus pushing established products. Past studies show that firms often fail to adjust their control systems in a way that provides the appropriate incentives and rewards for their salespeople to sell new products (Atuahene- Gima, 1997). The study sought to address the following research questions: What is the effect of new product

characteristics (relative advantage, compatibility, complexity, trialability, and communicability) on product adoption by the salesperson. It is important for the salespeople to believe in the usefulness and value of the product, as this influences the efforts towards the new product. The overall objective was to examine the relationship between new product characteristics and salesperson adoption.

Conceptual Framework

The dependent variable comprised of sales person adoption. The salespeople are often the most important communication vehicle for launching new products. The sales force skills and resources, quality of selling effort and training of the sales force significantly discriminate successful new product launches from unsuccessful ones. Salespeople may also resist adding a new product to existing lines fearing that customers may not be satisfied, affecting their relationship or fear changing their schedule of selling known products. The independent variables comprised of product characteristics such as relative advantage, compatibility, complexity, trialability, and communicability. The innovation brings greater benefits to users than do other products; it gives the extent to which the value of innovation, its experience in the past, and users’ needs are consistent with each other. It gives the degree of difficulty that users have understanding and applying the innovation and how often or how much the innovation can be effectively tested. These characteristics were used to explain the users’ adoption and decision making process.

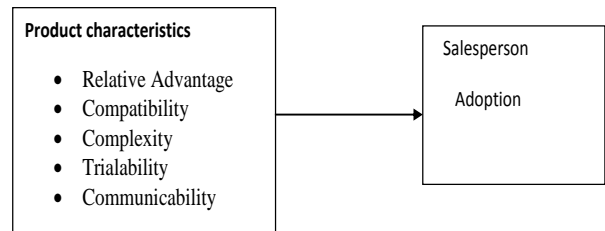


Figure 1 Conceptual Framework

Research Methodology

The research design chosen is explanatory with some elements of descriptive design used. Survey methodology was used in this study to obtain perceptions of major theoretical concepts. Target population refers to the complete group of specific population elements relevant to the research project (Zikmund, 2003). The target population was all the manufacturing firms in Kenya, a list of 500 firms were randomly picked from the Business directory. The sales managers for these firms were contacted by telephone. The target population was 250 sales managers and 550 salespersons. This study employed both probability and non-probability sampling design. A simple random design was used to select sales managers. Non-probability sampling design was used to select salespersons, specifically, judgment sampling design was used. This is where specialists in the area choose what they believe to be the best sample for a particular study.

The researcher used questionnaires to collect data from sales managers and sales persons. The questionnaire was made up of structured and unstructured questions and was administered to the respondents who were sampled. All the questions in the questionnaire were related to the objectives of the study. Sales managers were first to be contacted by telephone to solicit their cooperation. The researcher personally delivered the questionnaires to the informants. The respondents were informed of the confidentiality of their responses and the academic purpose

of the project. During the study the Cronbach's alpha was used to test internal consistency. Cronbach's alpha is a single correlation coefficient that is an estimate of the average of all the correlation coefficients of the items within a test. If alpha was high (0.80 or higher), then this suggests that all of the items were reliable and the entire test is internally consistent. The data collected for the purpose of the study was adopted and coded for completeness and accuracy of information at the end of every field data collection day and before storage. Data capturing was done using Excel software. The data from the completed questionnaires was cleaned, coded and entered into the computer using the Statistical Package for Social Sciences (SPSS) version 17.0 to derive both the descriptive and inferential statistics relevant for this study.

RESULTS

Factor analysis on Sales adoption

An exploratory factor analysis performed using principle component: Varimax Rotation Method with Kaiser Normalization verified the existence of structures within items. Rotations converged in 7 iterations. With Eigen values greater than unity, initial solution produced six components accounting for 75.11% of the. Using Tabachnik and Fidell (2007) rule, an initial set of nine items entered into the analysis would lead to the expectation of five components. Five components were thus extracted accounting for 70.99% of the variance which is above the threshold of 50%. The rotated component matrix presented only five rotated factors as shown in Table 1. Factor one contains four items that clearly reflect the communicability for sales adoption. Factor two contains three items that reflect compatibility for sales adoption. Factor three contains two items that reflect relative advantage for sales adoption. Factor four contains three items that reflect complexity in sales adoption and finally, factor five contained three items that reflected triability in sales adoption. This five factor model represents the combination of the seven original factors and appears to reflect adequately the underlying factors of the 25-item sales adoption inventory

Relationship between new product characteristics and product adoption by the salesperson

The Pearson correlation was performed to determine variables relationship and the sales adoption. The new product characteristics included the relative advantage, compatibility, complexity, triability, communicability and sales adoption as summarized in Table 2. The relative advantage were positively significantly correlated to sales adoption at 1% level of significance (r = .370) and 2 tailed. The compatibility were positively significantly correlated to sales adoption at 5% level of significance (r =.223) and 2 tailed. The complexity was not significantly correlated to sales adoption. The triability were positively significantly correlated to sales adoption at 1% level of significance (r =.239) and 2 tailed. The communicability were positively significantly correlated to sales adoption at 1% level of significance (r =.302) and 2 tailed. Correlation analysis of the results indicated that there was positive correlation between relative advantage, compatibility, complexity, trialability, communicability and sales adoption.

Table 2 Correlations between new product characteristics and product adoption by the salesperson

Product Characteristics		Sales Adoption
Relative advantage	Pearson Correlation	.370**
	Sig. (2-tailed)	.000
Compatibility	Pearson Correlation	.223*
	Sig. (2-tailed)	.014
Complexity	Pearson Correlation	.077
	Sig. (2-tailed)	.402
Triability	Pearson Correlation	.239**
	Sig. (2-tailed)	.008
Communicability	Pearson Correlation	.302**
	Sig. (2-tailed)	.001

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).
N=122

Table 1 Rotated Component Matrix

	Component				
	1	2	3	4	5
Seen the new product in use outside my firm	.857				
Plenty opportunity to see this new product being used	.831				
Seen what others do using the new product	.799				
Easy for me to observe others using this new product in my firm	.757				
Product is compatible with all aspects of my work		.884			
Product compatible with current situation		.846			
Products fits well with the way I like to sell		.795			
Offer unique benefits to customers			.787		
Provides high quality than competing products			.708		
Products has superior technical performance relative to competing products			.689	.819	
Product is often frustrating				.765	
Products requires a lot of mental effort				.713	
Product is cumbersome to sell					.878
Product was available to me to adequately test run in various market					.748
Before deciding whether or not to sell this new product was able to try it					.532
Opportunities to try out this new product					.864
Reliability Test: Cronbach values	.700	.852	.699	.712	.864

Extraction method: principal component analysis.
Rotation method: Varimax with kaiser normalization.
A. Rotation converged in 7 iterations

DISCUSSION

The results of this study confirmed the importance of product characteristics during new product launch, which underscores the importance of the sales force in the new product adoption. From the study it showed there was significant relationship between product characteristics and sales person adoption. These study findings agrees with Parthasarathy and Bhattacharjee (1998) who used diffusion of innovation to examine post adoption behavior among users of online services and found that product characteristics significantly affect the intention to use internet banking. The findings showed that product characteristics significantly influence the adoption of products. All the product characteristics used in the study showed a strong influence on the adoption of new products. Klein (1982) who found that relative advantage was positively related to adoption. Furthermore agree with O'Callaghan *et al.*, (1992) who found that relative advantage of EDI technology influence adoption in organizations significantly. The results showed that there is significant relationship between compatibility and product adoption. Salespersons acceptance or rejection of new products will rely greatly on the extent to which it accommodates or rejects all or some of the past values. This suggests that when an innovation is compatible with the way salesperson work, and is compatible with the current situation then salesperson adopts the new product. The findings support previous studies that a modern system accepts and adopts an innovation faster and easier than traditional systems (Blackwell *et al.*, 1995). The significant contribution of compatibility to the diffusion of innovation model has also been highlighted in other studies by Chen *et al.*, (2002) and Tan and Teo (2000). These findings agree with Lau (2002) who found out compatibility significantly correlated with the attitude of using the system. The study by Chen, *et al.*, 2002 showed compatibility between using a virtual store and consumer belief, values and needs positively affected ones attitude towards using the virtual stores.

The results showed there was no relationship between product complexity and sales adoption. Findings in relation to complexity construct revealed that products that were frustrating, that required a lot of mental effort and cumbersome to sell may not be easily adopted. The harder the innovation to use, or perceived to use, the less likely that an adopter would use it. The findings agree with Tao and Teo (2000) they found out that complexity was not a significant factor in influencing adoption. The findings agrees with Karahanna *et al.*, (1999) who used combined Diffusion of Innovation and Theory of Reasoned Action to examine factors that influenced windows 3.1 adoption across time. They found that relative advantage, compatibility, and trialability significantly affected the intention to use internet banking, whereas complexity was not significant. The complexity of an innovation affects how well the innovation diffuses in a social system, because if an innovation is easy to use, more people are likely to adopt it (Rogers, 1995). Complexity of technology creates greater uncertainty for successful implementation and increases the risk in the adoption decision. It is negatively associated with adoption (Cooper and Zmud, 1990). Complexity acts as an inhibitor to adoption when organizations do not have necessary expertise (Tornatzky and Klein, 1982). Complexity likely affects sales force adoption when the salesperson perceives the product is too complex for customers, he will not adopt it, because he feels his customers will not adopt it and thus, he will not be able to sell it. If the product is complex the salesperson may not understand it

and may not be able to explain it to the customers, or may take a long time and great effort to learn the new product well enough to explain it to customers.

The findings show a positive relationship between trialability and adoption. The results implied that the salesperson adopted products they had opportunity to try new products before adopting them. Factor analysis for trialability, revealed that products that were available to test run influenced the adoption of the new product. It showed that new products were tested or tried out before steady usage. Trialability was the most relevant characteristic of innovation for continued use behavior. Studies have shown that most people will not adopt an innovation without first personally testing it to see if it could fit into their needs and desires (Rogers, 1995). Research shows that earlier adopters of an innovation perceived trialability as more important than do later adopters. More innovative individuals have no precedent to follow when they adopt whereas late adopters are surrounded by others who have already adopted the innovation. According to diffusion of innovation theory, ideas that can be tried will be adopted more rapidly than those innovations that have not been tried. The findings showed a significant relationship between communicability and adoption. This is because when salespeople have seen how the products works outside their firm, and are able to communicate how the new product works, then the faster they will adopt such products. The findings agree with other studies that have shown the contributions of communicability to the diffusion of innovation model (Tan and Teo, 2000 and Taylor and Todd, 1995). In a meta- analysis of innovation studies Damanpour (1991) found a positive relationship between internal communication and adoption.

The results suggest that different product attributes influence product adoption, and that salespeople will adopt those products that are easy to use, compatible with their current situation, they have seen it be used elsewhere, offers more benefits, and there is an opportunity to try out first. The new product characteristics have significant impact on brand adoption by the sales person. The salespeople will adopt new products that are important to them, once they fully adopt it becomes easy for them to convince the customers to adopt the same products. The managers need to make sure that salespeople know the advantages of new products to be introduced in the market. Marketing communication on products shown to the salespersons need to communicate clearly and should be well understood.

CONCLUSION

There was positive relationship between relative advantage, compatibility, complexity, triability, communicability and sales adoption. The product characteristics significantly influence the adoption of products. It is important to motivate salespeople particularly during new product introductions. Relative advantage is the best predictor of an innovation's rate of adoption and is positively related to it. When individuals pass through the innovation adoption process, they are motivated to seek information in order to decrease uncertainty about the relative advantage of the innovation. Products that require a lot of mental effort and cumbersome to sell may not be easily adopted. Complexity affects sales force adoption as the salesperson takes a long time and great effort to learn the new product well enough to explain it to customers.

The salesperson adopted products they had opportunity to try new products before adopting them. The earlier adopters of an

innovation perceived trialability as more important than do later adopters. Innovations whose result can be seen and communicated are more easily adopted than those which are difficult to be communicated. Results of an innovation have to be communicated to potential users. For an innovation to be successfully adopted and used, the users must become aware of the innovation and know its benefits. When introducing a new product factors beyond product characteristics must be considered, specifically the type of control system used to manage the sales force, because it influences the manner in which information pertaining to the product is conveyed to the customer, along with the ultimate impressions formed by the customers. The control systems play a pivotal role in influencing product adoption.

Recommendation

From the study the following recommendations were made:

- The product characteristics significantly influence the sales adoption of products and it is important to motivate salespeople particularly during new product introductions. The salespersons should be motivated through offering of tangible rewards that will offer a sense of accomplishment, self actualization and self worth.
- For an innovation to be successfully adopted and used, the users must become aware of the innovation and know its benefits. Thus there is need to create awareness of the new products to be rolled in the market.

References

- Anderson, E. and Oliver, R. (1987). Perspectives on Behavior Based versus Outcome Based Sales Force Control Systems. *Journal of Marketing*, 51, 76-88.
- Anderson, E and Robertson, T. S. (1995). Introducing multiple salespeople to adopt house brands. *Journal of Marketing*, 59, 16 – 31.
- Atuahene - Gima, K. (1997). The adoption of new products by the sales force: The Construct, propositions and managerial implications. *Journal of Product Innovation Management*, 14, 498 – 514.
- Atuahene- Gima, K. and Michael, K. (1998). A contingency analysis of the impact of salesperson effect on satisfaction and performance in selling new products. *European Journal of Marketing* 32, 904-921.
- Blackwell, et al.,(1995). *Diffusion of innovations in consumer behavior*. London. Dryden Press.
- Brewer, G. (1996). In with the new. *Sales and Marketing management*. 3, 45- 46.
- Chen, D.L., Gillenson, M.L. and Sherrell, D.L.(2002). Enticing online consumers: an extended technology acceptance perspective, *Information Management*, 39 .705- 719.
- Cooper, R. B., and Zmud, R.W. (1990). "Information Technology Implementation Research: a technological Diffusion approach." *Management Science* , 6, 123-139.
- Damanpour, F. (1991). Organizational Innovation: A Meta Analysis of Effects of Determinants and Moderators. *Academy of Management Journal*, 34 (3), 555 -590.
- Di Benedetto, C.A. (1999). Identifying the key success factors in new product launch. *Journal of Product Innovation Management*, 16 (6) 530-544.
- Gatignon, H. and Xuereb, J.M. (1997). "Strategic Orientation of the Firm and New Product Performance," *Journal of Marketing Research*, 34 (1), 77- 90.
- Karahanna, E., Straub, D.W., and Chervany, N.L.(1999).Information technology adoption across time: Across sectional comparison of pre-adoption and post adoption beliefs. *MIS Quarterly*, 23 (2),183-213
- Karahanna, E., Agarwal, R. and Angst, C.M. (2006). Reconceptualizing compatibility beliefs in Technology acceptance research. *MIS Quarterly*, 30(4), 781- 804.
- Kleinschmidt, E, J and Cooper, R.G. (1991). The impact of product innovativeness on Performance. *Journal of Product Innovation Management*, 8 (4), 240 -51.
- Lau, S.M (2002). Strategies to motivate brokers adopting online trading in Hong Kong Financial Markets. *Review of Pacific Basin Financial Markets and policies*, 5(4), 471- 489.
- Montaya, W. and Calantone, R. (1994). Determinants of new product performance; A Review and meta analysis . *Journal of Product Innovation Management*, 11 (4) 397 -417.
- Moriarty, R.T. and Kosnik, T.J. (1989). High technology marketing: Concepts, Continuity and Change. *Sloan Management Review*, 30, 7-17.
- O'Callaghan, R., Kaufmann, P.J., and Konsynski, B.R. (1992). Adoption Correlates and Share Effects of Electronic Data Interchange Systems in Marketing Channels. *Journal of Marketing*, 56, 45 – 56
- Rackham, N.(1998)."From Experience: Why Bad Things Happen to Good New Products" *Journal of Product Innovation Management*, 15 (3), 2001- 7.
- Ram, S. (1987). A model of innovation resistance. In Mellanie Wallendorf and Paul Provo (Eds), *Advances Consumer in Research*, 14, 208- 212.
- Ram, S., and Jung, H. (1991). Forced adoption of innovations in organizations: consequences and Implications. *Journal of Product Innovation Management*, 8 (2), 117- 126.
- Rochford, L. and Wotruba, T. R. (1993). New Product Development under Changing Economic Conditions. *Journal of Business and Industrial Marketing*, 8, 4-12.
- Rogers, E.M (1983)."Diffusion of Innovation". (3rd Ed), New York: The Free Press.
- Rogers, E. M. (1995). *Diffusion of Innovations*. (4th Ed). New York: The Free Press.
- Sharma, S., Durand, R.F., Gur-Arie, O. (1981). Identification and analysis of moderator variables. *Journal of Marketing Research*, 18, 291- 300.
- Tan, M. and Teo, T.S.H (2000). Factors influencing the adoption of internet banking. *Journal of the association for Information Systems*, 1 (1) 1- 42.
- Taylor , S. and Todd, P.(1995). "Understanding Information Technology Usage: A Test of Competing Models," *Information Systems Research*, 6, 144 – 176.
- Tornatzky, L.G. and Fleischer. M.(1990). *The Process of Technology Innovation*. Lexington books, Lexington, MA.
- Wotruba, T.R. and Rochford, L.(1995). The impact of new product introductions on sales management strategy. *Journal of Personal Selling and Sales Management*, 15, 35 – 51.
- Zmud, R.W. (1984). An examination of push-pull theory applied to process innovation in knowledge work. *Management Science* 30 (6), 727-73
