Impact of product innovation on brand equity: an empirical study on the condor electronics company in Algeria.

الإبتكار في المنتج وأثره على قيمة العلامة: دراسة ميدانية على مؤسسة كوندور للإلكترونيات في الجزائر.

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Abstract:

This study aimed to examine the impact of product innovation on condor brand equity. Regression analysis was conducted to test the relationship between product innovation and brand equity. Results indicated that product innovation has significant positive impact on brand equity.

Key words: product innovation, brand equity, condor.

Résumé:

Cette étude vise à examiner l'impact de l'innovation de produit sur la valeur de la marque Condor. Une analyse de régression a été menée pour tester la relation entre l'innovation de produit et la valeur de la marque. Les résultats indiquent que l'innovation produit a un Impact positif significatif sur la valeur de la marque.

Mots clés: innovation produit, la valeur de la marque, condor.

الملخص:

هدفت هذه الدراسة إلى دراسة أثر الإبتكار في المنتج على قيمة العلامة كوندور. ولقد أجري تحليل الانحدار من أجل إختبار العلاقة بين الإبتكار في المنتج وقيمة العلامة حيث أشارت النتائج بوجود أثر معنوي موجب للإبتكار في المنتج على قيمة العلامة.

الكلمات المفتاحية: الإبتكار في المنتج، قيمة العلامة، كوندور.

Introduction:

Establishing strong brand is a strategic priority for many companies since general beliefs indicate that powerful brands can be a strength point and a competitive advantage for companies in their target markets. Therefore, brand distinguishes product from a similar one and penetrates into the way of consumers' perception and cognition.[1] In general, consumers are purported to react differently to marketing-mix efforts for a branded product in comparison with efforts for an unbranded product.[2]

Brand management literature indicated that powerful brand adds value for the involved parties (the customer and the business firm). This notion has been termed as 'brand equity', and such strong brand has become as a firm's most valuable asset due to the positive consequences on the firm's performance. Therefore, the brand equity concept has received significant attention in the marketing literature.[3] So far, different definitions of brand equity have been proposed by the scientists and researchers since its emergence. These definitions are generally classified in to two main approaches. First approach incorporates the definitions having the financial concepts and the second one consists of the definitions having the customer-based approaches. [3] However, in this study we just focus on the customer-based approach when measuring the brand equity.

Product innovation is defined as the process of identifying innovative unmet customer wants and embedding new technologies in unique new product features. To gain brand equity, some enterprises

[1]Alireza Amini et al, effectiveness of marketing strategies and corporate image on brand equity as a sustainable competitive advantage, interdisciplinary journal of contemporary research in business, vol 04, n 02, 2012, p192.

[2]Rebecca j. Slotegraaf and koen pauwels, the impact of brand equity and innovation on the long-term effectiveness of promotions, journal of marketing research, vol 45, 2008, p295.

[3]Fayez Bassam Shriedeh, Noor Hasmini abd. Ghani, innovation's effect on brand equity: insights from medical Tourists, journal of Asian business strategy, volume 6, issue 8, 2016, p177.

[4]Ebrahim Chirani et al, brand performance and brand equity, interdisciplinary journal of contemporary research in business, vol 3, n09, 2012, p 1034.

have focused their attention on the market and customer end of their primary value-adding chain. When firms have the capability to link product innovation to market orientation, they can gain brand equity.[1] According to Brunello (2014) Innovation plays a significant role in establishing brand equity. Successful product innovations strengthen brand equity because they may reinforce and in some cases broaden brand meaning, help to revitalize brands, act as an effective measure against private labels, and improve brand value and profitability.[2]

In fact, studies about the role of product innovation in fostering the brand equity are still little in the marketing literature. Therefore, this study sought to contribute to the literature by testing the relationship between product innovation and brand equity in the condor electronics company in Algeria.

Literature review

A. Product Innovation

Innovation is imperative in this current and uncertain environment for the survival of an organisation. It provides the organisation with the knowledge for better utilisation of resources, capabilities and technology.[3] Within competitive markets, different firms may develop varied resources and employ diverse strategies in the search for profit. As a result, firms may attempt to adopt new or significantly improved products and services through new product development processes.[4] Product innovations are required by firms to cope with competitive pressures, changing tastes and preferences, short product life cycles, technological advancement (or contrarily technological

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[1]Shaoming zou, Huifzu fu, international marketing: emerging markets, emerald books, vol 21, UK, 2011, p119.

[2]Adrian brunello, customer-based brand equity – an innovative approach, the yearbook of the "gh.zane" institute of economic research, vol. 23, issue 1, 2014, p76.

[3]Daiana-Maria Tont, Mihu-Dan Tonţ an overview of innovation sources in SMES, Oradea journal of business and economics, volume i issue 1, 2016, p58.

[4]Omid Mirzaei, Eric t. Micheels, Andreas Boecker, product and marketing innovation in farm-based businesses: the role of entrepreneurial orientation and market orientation, international food and agribusiness management review, volume 19 issues 2, 2016, p100.

obsolescence), varying demand patterns, and specialized requirements of customers.[5]

Product Innovation is the development of new products, making changes in current product design or using new techniques and means in the current production methods[1]. Product innovation is a process that includes: technical design, research and development, production, management and commercial activities associated with marketing a new product.[2] Product innovations are represented by the new products or services introduced to meet the needs of the market. Such innovations are reflected in new products or services on the market to the benefit of customers.[3] From the perspective of customers, a product can be viewed as innovative when it provides them with differential values and uniqueness which is hard for competitors to copy or imitate. Thus, a new product can be assessed in terms of uniqueness and inherent features, functionality, and usefulness.[4] In general, product innovation comes from a brand's ability to bring something new to the marketplace which enhances the degree and quality of products. [5]

[5]Nagasimha Balakrishna Kanagal, innovation and product innovation in marketing strategy, journal of management and marketing research, volume 18, February, 2015, p10.

[1]Leow Chee Seng, Ng Sook Ping, the influence of product innovation toward consumer purchase intention, international journal of economics, commerce and management, vol. 04, issue 4, April 2016, p774.

[2]Hamid Tohidi, Mohammad Mehdi Jabbari, product innovation performance in organization, procedia technology 1, (2012) 521 – 523, p521.

[3]Ioan Lala Popa, Gheorghe Preda, Monica Boldea, a theoretical approach of the concept of innovation, managerial challenges of the contemporary society, 2010, issue 1, p153.

[4]Jalal Hanaysha, Haim Hilman Abdullah, the impact of product innovation on relationship quality in automotive industry: strategic focus on brand satisfaction, brand, Asian social science; vol. 11, no. 10; 2015, p96.

[5]Jalal Hanaysha, Haim Hilman, and Noor Hasmini Abdul-Ghani, direct and indirect effects of product innovation and product quality on brand image: empirical evidence from Automative industry, international journal of scientific and research publications, volume 4, issue 11, November 2014, p02.

The majority of past studies on innovation have mainly focused on product innovation, because it has been previously established as the most significant factor for strengthening the success of a brand.[6]

B. Brand equity

An attempt to define the relationship between customers and brands produced the term ″brand equity″ in the marketing literature.[1] Building strong brands has become a marketing priority for many companies nowadays because it provides multiple advantages to establish and create an identity in the market place for a company, while being a key source of competitive advantage.[2] Brand equity refers to the value of a product with a brand name in comparison with that if the same product did not have a brand name.[3] That is, the benefits a product achieves through the power of its brand name.[4]

The literature on brand equity shows two major focuses. Some authors have focused on the financial aspects of brand equity, more pertinent to determining a brand's valuation for accounting, merger, or acquisition purposes. Others have focused on the consumer behavior effects specific to a particular brand. For marketers, the consumer effects are the appropriate focus and include a number of cognitive effects.[5]

Aaker (1991) and Keller (1993) developed the foundation for consumer-based brand equity research. From a cognitive psychology approach, [6] Aaker (1991) defines brand equity as "a set of brand

[6]Jalal Hanaysha, Haim Hilman, strategic effects of product innovation, service quality, and relationship quality on brand equity, Asian social science; vol. 11, no. 10; 2015, p58.

[1]Lisa Wood, brands and brand equity: definition and management, Management Decision, 38/9, 2000, p662.

[2]Cristina Calvo Porral, Normand Bourgault, Domingo Calvo Dopico, Brewing the Recipe for Beer Brand Equity, European Research Studies, Volume 16, Issue (2), 2013, p 83.

[3]Rebecca j. Slotegraaf, Koen Pauwels, the impact of brand equity and innovation on the long-term effectiveness of promotions, journal of marketing research vol. 45, 2008, p294.

[4]Florian Stahl, Mark Heitmann, Donald r. Lehmann, & Scott a. Neslin, the impact of brand equity on customer acquisition, retention, and profit margin, journal of marketing, vol. 76, 2012, p45.

[5]Dennis a. Pitta, Lea Prevel Katsanis, understanding brand equity for successful brand extension, journal of consumer marketing, vol. 12 Iss: 4 , 1995, p52.

[6] Isabel Buil Eva Martínez Leslie de Chernatony, the influence of brand equity on consumer responses, Journal of Consumer Marketing, Vol. 30 Iss 1, 2013, p63.

assets and liabilities linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service to a firm and/or to that firms' customers.[7] These assets are divided into five groups including brand awareness, brand loyalty, perceived quality, brand association and other proprietary of brand assets.[1] According to Keller (1993) brand equity is defined as the differential effect of brand knowledge on consumer response to the marketing of the brand.[2] Keller views brand equity in terms of brand awareness and the strength, favorability and uniqueness of brand associations that consumers hold in memory.[3]

This study uses a consumer-based brand equity measure that consists of four dimensions given by Aaker (1991) and which is shown in table 01.

Table01: brand equity dimensions

Brand equity Dimensions	Definition
Brand loyalty	A deeply held long-term commitment to consistently repurchase or repatronize a product/service of the same brand, free from the effects of situational factors and marketing efforts that have the potential to result in switching behaviors.
Perceived Quality	A consumer's evaluation of a recent consumption experience regarding a product's overall excellence.
Brand associations	Anything, including attributes of a product/service, reputation of a company, and characteristics of product /service users, which linked in consumer memory to a brand.

[7]Goi Chai Lee and Fayrene Chieng Yew Leh, dimensions of customer-based brand equity: a study on Malaysian brands, journal of marketing research and case studies, vol. 2011 (2011), p02.

[1]Ebrahim Chirani, Mohammad Taleghani, Nasim Esmailie Moghadam, brand performance and brand equity, interdisciplinary journal of contemporary research in business, vol 3, no 9, 2012, p1053.

[2]Kevin lane Keller, conceptualizing, measuring, and managing customer-based brand equity, journal of marketing, vol. 57, no. 1, 1993, p8.

[3]Isabel Buil Eva Martinez Leslie de Chernatony, op.cit, p63.

Brand awareness	The strength of the trace of a brand in consumer memory, as reflected by the consumers' ability to identify the brand under different conditions.

Source: Hamed Karamian, Mehdi Ahmadi Nadoushan, Alireza Ahmadi Nadoushan, do social media marketing activities increase brand equity?, International journal of economy, management and social sciences, vol (4), No (3), 2015, p362.

Based on what have been discussed above, the following hypotheses are developed:

H1: there is no significant impact of product innovation on brand loyalty.

H2: there is no significant impact of product innovation on Perceived Quality.

H3: there is no significant impact of product innovation on brand awareness.

H4: there is no significant impact of product innovation on brand associations.

H5: there is no significant impact of product innovation on brand equity.

Methodology

The objective of this study is to identify the effects of product innovation on brand equity of the Condor Electronics Company in Algeria. Quantitative method was used to conduct this study. Therefore, a structured questionnaire was developed to collect the data related to product innovation and brand equity. 50 questionnaires were distributed to various customers of the condor Electronics Company in El Eulma city in Algeria using convenience sampling technique.

The measurements of the constructs were used from previous studies. For instance, product innovation was measured through six items which were adapted from Jalal hanaysha (2016). Brand equity items were adapted from several studies. For instance, brand loyalty was measured through six items which were adapted from Mohamed Nabil Bersali and Cherif Guermat (2014). Perceived Quality was measured through four items which were adapted from Goi Chai Lee and Fayrene Chieng Yew Leh (2011). Brand awareness was measured through three items which were adapted from Jalal hanaysha (2016) and Brand associations were measured through six items which were adapted from Tser-Yieth Chen et al (2013). All items were measured on a five-point Likert scale starting from 1= strongly disagree to 5=

strongly agree. In regards to data analysis, the valid data were analyzed using Spss 18.

Analyses of results

34 questionnaires were valid for data analysis representing 68% of response rate. Using spss 18, Cronbach's alpha was employed to calculate the reliability of the selected scales. The results showed that all constructs exceeded the minimum value of acceptable reliability Cronbach's alpha. Product innovation (0.961), brand loyalty (0.973), perceived quality (0.789), brand awareness (0.991), brand association (0.915).

A Pearson product-moment correlation coefficient was computed to assess the strength of a linear relationship between brand equity and product innovation. The results indicates that brand equity is positively and significantly correlated with product innovation, R = 0.995, n = 33, p = 0.000. Thus, as the level of product innovation increases the brand equity also increases.

In order to test the proposed hypotheses, Regression analysis was used to check the impact of product innovation on brand equity dimensions and the impact of product innovation on the overall brand equity.

Table2: model summary of product innovation and brand equity

Model 1	R	R square	Adjusted R square	Std. error of the estimate
	0.995	0.99	0.990	0.08463

    a.   Predictor: (constant), product innovation.

The results indicate the high degree correlation between product innovation and the overall brand equity (R=0.995) as well as the total variation in the brand equity that can be explained by product innovation which in this case is 0.99 (R square) which is very large. Thus, as the level of product innovation increases the brand equity also increases.

Table3: Anova of product innovation and brand equity

model	Sum of squares	df	Mean square	F	sig
1 regression	21.880	1	21.880	3055.133	0.000
residual	0.222	31	0.007		
total	22.102	32			

    a.   Dependent variable: brand equity
    b.   Predictors: (constant), product innovation

The results of Analysis of Variance indicate that the regression model predicts the dependent variable significantly well since the

significance value (sig) is 0.000 which is less than 0.05. This indicates the statistical significance of the regression model that was run.

Table 4 Coefficients of product innovation and brand equity

model		unstandardized Coefficients		standardized Coefficients	t	Sig
		A	Std. error	beta		
1	(constant)	0.247	0.113		2.185	0.037
	Product innovation	0.919	0.032	0.982	28.560	0.000

    a.   Dependent variable: brand equity

The results indicate that the product innovation predicts the brand equity (sig=0.000) which is less than 0.05. Besides, product innovation contributes statistically significantly to the model.

The regression equation is presented as: **Y= 0.247+0.919X** where: y represents brand equity and X represents product innovation.

    Based on the regression analysis that was used, the results of hypotheses are presented in table 5. Knowing that if the statistical analysis shows that the significance level is below 0.05, we reject the null hypothesis and accept the alternative hypothesis.

Table 5: Hypotheses Testing Results

Hypotheses	Results
There is no significant impact of product innovation on brand loyalty.	Rejected (sig=0.000)
There is no significant impact of product innovation on Perceived Quality	Rejected (sig=0.000)
There is no significant impact of product innovation on brand awareness	Rejected (sig=0.000)
There is no significant impact of product innovation on brand associations.	Rejected (sig=0.000)
There is no significant impact of product innovation on brand equity.	Rejected (sig=0.000)

Discussion and conclusion

    This study aimed at identifying the relationship between product innovation and brand equity in electronic industry in Algeria. Our findings showed that product innovation has significant positive impact on brand loyalty. The results indicate that companies who tend to provide customers with new products are more likely to keep them loyal. As customers' needs are changing very quickly, companies must respond to these changes by developing new products and that may foster customer's loyality.

Our findings also showed that product innovation has significant positive impact on perceived quality. The results indicate that companies who introduce innovative products are more likely to affect customers' perceptions towards their products. Therefore, companies must take advantage of product innovation in order to shape the perceptions of customers toward their products.

This study also found that product innovation has significant positive impact on brand awareness. The results indicate that companies who introduce innovative products are more likely to be recognized by customers. Hence, Companies could rely on product innovation in order to affect the buying behaviour of customers and this is because customers like to buy from a brand they recognize.

The findings also showed that product innovation has significant positive impact on brand association. The results indicate that companies can create a positive linkage which customers form in their minds with their brands through product innovation.

This study showed that product innovation has significant positive impact on overall brand equity. The results indicate that companies could foster their brand equity through product innovation.

In conclusion, this study highlighted the relationship between product innovation and brand equity. And it confirmed the impact of product innovation on brand equity and its dimensions. Activities such as developing new products, adding new features or improving the design and quality of existing products may play a crucial role in brand evaluation by customers. Thus it is suggested that electronics companies must continuously innovate in their products in order to affect the purchase decision of customers and ultimately boost their profitability.

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