



An evaluation of packaging attributes and perceived value of Food and Beverages products in Lagos State, Nigeria.

KESINRO, Olalekan Rasheed

Crawford University, Igbesa,
P.M.B 2001, Ogun State, Nigeria.

Tel: +2348037230104 E-mail: romarke07@yahoo.com

Abstract

The main focus of the study is to explore and investigate how product packaging could be a determinant of value in the Food and Beverages markets in Lagos State of Nigeria. The descriptive survey design was adopted for the study. 2374 consumers of packaged food products across the entire 20 local government areas of the state were proportionally sampled. Questionnaire was the main instrument of data collection, rated on a 6 – point Likert scale. Data were analysed using the descriptive statistical techniques of Pearson Product Moment correlation (r) and Simple Regression Analysis. The findings revealed that product package has significant effect on consumer value perception of a brand ($p < 0.05$, $r = 0.262$; 0.194; 0.352; 0.283; 0.401) and that packaging value perception is caused by functional and quality attributes of products. It was therefore suggested that manufacturing companies should establish close relationships with their customers and incorporate them into the value chain.

Keywords: Product Packaging, Package design, Value perception, Food and Beverages, Customers

1. Introduction

Package design has been increasingly recognised as one of the most important elements for a successful positioning strategy especially in the actual society where aesthetic norms influence every purchase choices, regardless of what needs to be satisfied. Package design shapes consumer perceptions and can be the determining factor in point-of-purchase decisions. The package is a critical factor in decision-making process because it communicates to the consumers (Silayoi & Speece, 2004). Intention to purchase depends on the degree to which consumers believe the product to satisfy them when they consume it (Kupiec&Revell, 2001). How they perceive it depends on communication elements, which become the key to success for many marketing strategies (Silayoi & Speece, 2004). To achieve the communication goals effectively and to optimise the potentials of packaging, manufacturers must understand consumer response to their packages and integrate the perpetual processes of the consumer into the design; Nancarrow, Wright, & Brace, 1998, 110-118). In the design process therefore, marketers and package designers must take account of consumers' past experiences, needs and wants, understand how packaging design elements get to consumers to notice the package and notice messages on the package, and broadly evaluate packaging design and labelling for their effectiveness in the communication effort.

1.1 Statement of problem

In Lagos state most manufacturers imitate or copy packages of successful/leading brands from reputable organizations or companies and this has necessitated a very strong survival strategy in the FMCGs market (Ladipo & Olufayo, 2011), therefore consumers generally buy products they perceive to have good image and what they perceive is heavily influenced by the cues given on the products packaging, such as the design, logo, colour mix and visual displays. Chief executives and management of manufacturing companies often charge designers with the task of developing appealing product packaging that communicates desired brand images and corporate identity (Firstenfeld, 2005; Mackay, 2005; Teich graebv, 2005). Consequent upon this, most creative and advertising executives develop brand packaging design that they believe communicates the brand identity best based on past experience and intuition. But the question is: do these packaging designs developed using executives' experience and intuition effectively communicate the desired message to the consumers? Obviously, the answer is not in the affirmative. Thus, further research is required to focus on ensuring the packaging is consumer-friendly in order to guarantee effective product performance.

1.1.1 Objective of the study



The main objective of the study is to explore and investigate how product packaging could be a determinant of value in the Food and Beverages markets.

1.1.2 Research Hypothesis

Ho: Product package does not significantly affect consumer value perception of a brand.

H₁: Product package significantly affect consumer value perception of a brand.

2. Literature Review

Johan and Tobias (2005) in packaging as a brand communication vehicle, focused on how the elements of the package design affect consumer's perception of the brand and what benefits they associate with the brand's packaging. The findings and conclusions of the study indicate that there is no apparent difference in how women and men perceive product packaging. This shows that the elements of the package design affect consumer perception differently depending on how they are combined and that consumers associate different benefits to different packaging depending on both internal and external variables. They however suggested that marketing practitioners should investigate the fit between the package design and the preferred image of the product; they need to make sure that the product package design in fact communicates what is intended.

Gaafar and Ra'id (2013) aimed to investigate the role of packaging in Jordanian consumer's perception of product quality at the point of purchase. It was found that there is a significant statistical effect of the role of packaging in protecting the products and consumer on Jordanian consumers' perception of product quality at the point-of-purchase. The study also showed that protecting the products and consumer is a key and important role or function for the packaging. Increasing attention is drawn to focus on package safety especially for drugs, household cleaners and other products that are potentially dangerous, particularly children. This finding is consistent with (Bix, 2002), who found that packaging that fails to fully protect the product, has the potential to result in excess damage and waste, diminished shelf-life and loss of flavour or efficacy. Problems associated with insufficient protection are likely to lead to consumer's dissatisfaction; this means there is a connection between the packages ability to protect the product and consumer's satisfaction or his perception of product quality. Also, this finding is consistent with (Boyce et al., 2008), who found that the main features are considered desirable in take-out food packages were the ability to insulate food, to contain product without spillage and to keep individual foods separate within the same package. This means that the ability of package to protect and contain the product is one of the desirable features by consumer in take-out food package which determines the consumer's willingness.

Silayoi and Speece (2004) in packaging and purchase decisions: an exploratory study on the impact of involvement level and time pressure, examined the consumer experience with purchasing packaged food products and to understand consumer views on how packaging plays a role in their purchase decisions. In the final analysis, it was indicated that visual elements play a big role in decisions under pressure, which reduces ability to evaluate carefully, in other words, it lowers involvement. Furthermore, participant clearly felt that packaging helps contribute to a positive shopping experience. Package shapes could also help make products more appealing. For children's products, distinctive packaging shapes were considered more attractive and respondents reported that their children preferred to try products indifferent packaging shapes. In the same vein, many consumers feel that it is important to consider information on the package in order to compare quality and value. The trend toward healthier eating has highlighted the importance of food labelling, which allows consumers the opportunity to continuously consider alternatives and make informed food choices (Coulson, 2000). Consumers consider many packaged food products as higher involvement, requiring more evaluation. They tend to read the message on the label more often to ensure quality, even though graphics and shape may affect their attention at the beginning. Thus, in constant to consumers who rely on visual information, many participants were more likely to judge higher involvement products at least partly by information provided on the package. Some rely on label information quite heavily for the final decision. While they generally want more information for many products, the groups also suggested that information on food labels needs to be accurately communicated. They revealed many negative experiences with food labels which were not clear. Sometimes this confusion leads people to ignore the information; sometimes it leads to rejection in favour of packages on which information is more effectively communicated.



Packaging is an important marketing tool for food products, but the four elements of packaging stimulate purchase decisions differently (Silayoi and Speece, 2004). Consumer evaluation of packaging elements changes as the perceived risk of the consumption situation increases and marketers need to know the importance of the various attributes to best communicate through the package. Visual elements, graphics and size/shape, positively influence choice more in the low involvement situation, while informational elements tend to play a key role in higher involvement decision-making. They however indicated that much more detailed understanding is necessary, and careful examination of the issues much more broadly among consumers is also important. Certainly, better understanding of these attributes and issues in the packaging design process will become a key element in the competitiveness of packaged food products.

3. Methodology

The study adopted a descriptive survey design to enhance a comprehensive review of the active variables: Packaging (Independent Variable) and Value Perception (Dependent Variable). However, the packaging attributes that guided respondents' responses included:

- i. Packaging design (attraction to buyer and convenience in handling).
- ii. Communication through package (colour, symbols or logo, brand image, size and shape).

3.1 Population of the Study

The target population comprised 17,552,940 individuals and different consumers of packaged products resident in Lagos State (Lagos State Bureau of Statistics, 2005) which is one of the biggest economic and commercial nerve centres in Nigeria. The sample frame for this current study is the forty-two (42) Food and Beverages companies registered in Lagos State.

3.1.1 Sample and Sampling Procedure

The stratified sampling method was used to select sample from the target population while its variant, proportionate sampling technique was used to reflect the proportions of the people in each local government area of the state.

3.1.2 Sources of data collection

The primary source was the main source of data collection for the study with questionnaire as instrument to gather information from the respondents.

The questionnaire items were rated on a 6- Point Likert Scale as follows: Very Low (VL) = 1, Low (L) = 2, Medium (M) = 3, High (H) = 4, Very High (VH) = 5, Extremely High (EH) = 6.

A total of 2500 questionnaires were painstakingly administered to guarantee high response rate of 95% (2374 questionnaires) from the respondents.

4. Results and Discussion

The data collected were analysed using descriptive statistical techniques such as the Pearson Product Moment Correlation (r) and Simple Regression Analysis using the Statistical Package for Social Sciences (SPSS) to code, enter and compute the measurements of the chosen methods.

In order to ascertain the hypothesis, item 10 under value perception was used as the dependent variable against all other items under package design label, logo, shape, size and colour.

Table 1:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.262 ^a	.069	.067	1.234



Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.262 ^a	.069	.067	1.234

a. Predictors: (Constant), i always seek out information about the brand, label of brand are trendy and fashionable, brand label is suitable to me, label of brand have distinctive features

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	266.052	4	66.513	43.658	.000 ^a
	Residual	3609.159	2369	1.523		
	Total	3875.211	2373			

a. Predictors: (Constant), i always seek out information about the brand, label of brand are trendy and fashionable, brand label is suitable to me, label of brand have distinctive features

b. Dependent Variable: value to me, is what is convenient

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1(Constant)	2.753	.158		17.400	.000
label of brand have distinctive features	.085	.029	.070	2.909	.004
label of brand are trendy and fashionable	.037	.029	.029	1.246	.213
brand label is suitable to me	.186	.025	.166	7.346	.000
i always seek out information about the brand	.091	.022	.088	4.160	.000

a. Dependent Variable: value to me, is what is convenient

It was observed that there is a weak positive relationship between the dependent variable and joint effect of items under label ($R=0.262$) with only 6.9% change/variation in consumer perception of a brand caused by joint effect of the label of the brand. The Adjusted R-square is 0.067 with standard error of the estimate being 1.234. the result further revealed that out of the four items under label only “label of brand are trendy and fashionable” is not significant, contributing only 0.037 to consumer perception about a product and the p-value is greater than 0.05 ($p\text{-value} = 0.213$). The regression coefficients for the four items are 0.085, 0.037, 0.186 and 0.091 with standard errors of 0.029, 0.029, 0.025 and 0.022 having t-values of 2.909, 1.246, 7.346 and 4.160. It is also noticed that “brand label is suitable to me” contribute more to the model (consumer perception of a brand) than any other item with regression coefficient of 0.186.

The ANOVA table shows sum of Squares regression and residual of 266.052 and 3609.159 having mean squares of 66.513 and 1.523 respectively. The F-value is 43.658 with p-value of 0.000. The result implies that the model is significant in relating consumer perception of a brand to the factor “Label”.

Table 2:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.194 ^a	.038	.036	1.255



Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.194 ^a	.038	.036	1.255

- a. Predictors: (Constant), brand logo is very attractive, the bold logo communicate strength, masculinity and effectiveness, brand logo provides an image of casualness, fun, movement and entertainment, brands logo usually communicate elegance, highness and fashion

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	145.740	4	36.435	23.135	.000 ^a
	Residual	3729.350	2368	1.575		
	Total	3875.090	2372			

- a. Predictors: (Constant), brand logo is very attractive, the bold logo communicate strength, masculinity and effectiveness, brand logo provides an image of casualness, fun, movement and entertainment, brands logo usually communicate elegance, highness and fashion

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.275	.154		21.236	.000
	the bold logo communicate strength, masculinity and effectiveness	.145	.023	.140	6.271	.000
	brands logo usually communicate elegance, highness and fashion	.017	.026	.016	.671	.503
	brand logo provides an image of casualness, fun, movement and entertainment	.024	.024	.023	1.020	.308
	brand logo is very attractive	.102	.025	.088	4.041	.000

- a. Dependent Variable: value to me, is what is convenient

There is also a weak positive relationship between consumer perception about a brand and items under factor “Logo”. Here there are four items under logo, the correlation coefficient is $R=0.194$ with 3.8% variation in consumers’ perception of a product caused by the joint effect of all the four items under logo. The Adjusted R-Square is 0.036 having a standard error of the estimate of 1.255.

Only two of these four items are significant, that is “the bold logo communicates strength, masculinity and effectiveness” and “brand logo is very attractive” but the remaining two items under this factor are not significant. The regression coefficients for the four items are 0.145, 0.017, 0.024 and 0.012, with standard errors of 0.023, 0.026, 0.024 and 0.025 and t-values are 6.271, 0.671, 1.0020 and 4.041 respectively. The result revealed that “the bold logo communicate strength, masculinity and effectiveness” contribute more to consumers’ perception about brand than others with regression coefficient of 0.145.

The ANOVA table gives Sum of Squares regression and residual of 145.740 and 3729.350 respectively with Mean squares of 36.435 and 1.575. The F-value is 23.135 with p-value of 0.000. This result



indicates that the model is significant hence adequate in relating consumer perception of a brand to the items under factor “Logo”.

Table 3:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.352 ^a	.124	.122	1.197

a. Predictors: (Constant), shapes should be easy on the eye, simple shape are preferred to complicate one, a regular shape will have more appeal than an irregular one, a shape that is not balanced will be unpleasing, brand shape aids better handling

ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	480.813	5	96.163	67.085	.000 ^a
	Residual	3394.398	2368	1.433		
	Total	3875.211	2373			

a. Predictors: (Constant), shapes should be easy on the eye, simple shape are preferred to complicate one, a regular shape will have more appeal than an irregular one, a shape that is not balanced will be unpleasing, brand shape aids better handling

b. Dependent Variable: value to me, is what is convenient

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.340	.135		17.365	.000
simple shape are preferred to complicate one	.180	.022	.172	8.046	.000
brand shape aids better handling	.197	.025	.183	8.008	.000
a regular shape will have more appeal than an irregular one	.046	.022	.046	2.076	.038
a shape that is not balanced will be unpleasing	-.025	.021	-.026	-1.179	.239
shapes should be easy on the eye	.091	.023	.091	4.016	.000

a. Dependent Variable: value to me, is what is convenient

Shape has five items under it which stands as our independent variable with consumer perception about a brand as our dependent variable. The result from our model summary table shows a weak positive relationship between the dependent and the independent variable with $R=0.352$; also only 12.4% variation/change in consumers' perception about a product is caused by the factor.

However, the Adjusted R-square is 0.122 with standard error of the estimate being 1.197. But the item “a shape that is not balanced will be unpleasing” is not significant to consumers' perception of a product. All other items under shape are significant with their p-values less than 0.05. The regression coefficients for the five items are 0.180, 0.197, 0.046, -0.025 and 0.091 with standard errors of 0.022, 0.025, 0.022, 0.021 and 0.023 with t-values of 8.046, 8.008, 2.076, -1.179 and 4.016. Also, out of the items that are significant, only item 10, “brand shape aids better handling” and item 9, “Simple shapes



are preferred to complicated ones” contribute more with regression coefficients of 0.197 and 0.180 respectively.

More also, the ANOVA table shows that the model derived is adequate in relating the two variables under consideration (i.e. consumers’ perception and shape) with F-value of 67.085 and p-value of 0.000. The Sum of Square regression and residual are 480.81 and 3394.398 respectively with mean squares of 96.163 and 1.433.

Table 4:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.283 ^a	.080	.079	1.227

a. Predictors: (Constant), brand size communicates social approval, brand size communicates functional benefits, brand size contains more quality than others, brand package is well crafted

ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	310.437	4	77.609	51.533	.000 ^a
	Residual	3554.166	2360	1.506		
	Total	3864.603	2364			

a. Predictors: (Constant), brand size communicates social approval, brand size communicates functional benefits, brand size contains more quality than others, brand package is well crafted

b. Dependent Variable: value to me, is what is convenient

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.944	.135		21.739	.000
brand size communicates functional benefits	-.039	.023	-.037	-1.646	.100
brand size contains more quality than others	.126	.025	.116	5.017	.000
brand package is well crafted	.227	.027	.197	8.323	.000
brand size communicates social approval	.057	.022	.059	2.546	.011

a. Dependent Variable: value to me, is what is convenient

There are four items under size which is the independent variable with consumer perception of a brand as the dependent variable. There is a very weak positive relationship between items on size and consumers’ perception of a brand ($R=0.283$) with 8% of consumers’ perception of a brand caused by the joint effect of items under brand size. The Adjusted R-square is 0.079 with standard error of the estimate of 1.227.

Out of the four items under size, only “brand size communicates functional benefits” is not significant with p-value of 1.000 having regression coefficient of -0.039. But the other three items are significant with p-values less than 0.05. The regression coefficients are; -0.039, 0.126, 0.227 and 0.057 with t-values of -1.646, 5.017, 8.323 and 2.546.



However, from the ANOVA table, the model is significant with p-value less than 0.05 having F-value of 51.533 with Sum of Squares regression and residual of 310.437 and 3554.166 having mean squares of 77.609 and 1.506.

Table 5:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.401 ^a	.161	.159	1.172

a. Predictors: (Constant), brands pictures impact emotional imagery, brands colour conveyed a feeling of high quality and elegance, brand pictures add emotional appeal, brands colour is associated with class and satisfaction, colours on brands are very attractive, brands colour is associated with feelings of warmth, cosiness and satisfaction

ANOVA^b

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	623.018	6	103.836	75.574	.000 ^a
Residual	3252.193	2367	1.374		
Total	3875.211	2373			

a. Predictors: (Constant), brands pictures impact emotional imagery, brands colour conveyed a feeling of high quality and elegance, brand pictures add emotional appeal, brands colour is associated with class and satisfaction, colours on brands are very attractive, brands colour is associated with feelings of warmth, cosiness and satisfaction

b. Dependent Variable: value to me, is what is convenient

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.977	.142		13.930	.000
brand pictures add emotional appeal	-.041	.023	-.039	-1.757	.079
colours on brands are very attractive	.302	.025	.273	12.091	.000
brands colour conveyed a feeling of high quality and elegance	-.001	.025	-.001	-.047	.963
brands colour is associated with feelings of warmth, cosiness and satisfaction	.143	.025	.134	5.815	.000
brands colour is associated with class and satisfaction	.084	.024	.077	3.430	.001
brands pictures impact emotional imagery	.078	.020	.081	3.795	.000

a. Dependent Variable: value to me, is what is convenient

Looking at the effect of colour on the consumers' perception on a brand, there is a weak relationship between items on colour and the consumers' perception of a brand ($R=0.401$) with 16.1% variation in



consumers' perception of a brand accounted for by items on colour. The adjusted R-square is 0.159 and standard error of the estimate is 1.172.

All the items on colour are significant except for the two of the items which are having negative regression coefficient (-0.041) with p-value of 0.079 ("brand pictures add emotional appeal"); also "brand's colour conveyed a feeling of high quality and elegance" also have a negative regression coefficient of -0.001 with p-value 0.963. The regression coefficients are: -0.041, 0.302, -0.001, 0.143, 0.084 and 0.078 with t-values of -1.757, 12.091, -0.047, 5.815, 3.430 and 3.795. The result shows that "Colours on brands are very attractive" contributes more to consumers' perception of a brand than any other item on factor, colour.

However, the model is significant looking at the ANOVA table with p-value of 0.000 having F-value of 75.574.

5. Conclusion

The result of the study revealed that product package has significant effect on consumer perception of a brand. This view is however similar to that of Johan and Tobias (2005) which shows that the elements of the package design affect consumer perception differently depending on how they are combined and that consumers associate different benefits to different packaging depending on both internal and external variables.

The findings of the study is also in line with the position of Astri and Effy (2011) where they examined the effect of packaging design on impulse buying in South Jakarta, Indonesia; the result showed that the package graphic design affects impulsive buying. Similarly, the result also supported their findings of when they investigated the role of packaging in brand communication and determining the element/attributes of packaging for communicating the brand value to customers. The result of this study is also in line with the study of Marsh and Bugusu (2007) where it was revealed that a package is the face of a product and often is the only product exposure consumers experience prior to purchase; they however submitted that distinctive or innovative packaging can boost sales in a competitive environment. Furthermore, the result of this study is also consistent with the research by Topoyan and Bulut (2008) on packaging value of cosmetics products. It was found out that packaging value perception is caused by functional and quality attributes of products; they therefore suggested that companies should establish close relationships with their customers and incorporate them into the value chain.

References

- Allen, M.W. (2010). A practical method for uncovering the direct and indirect relationships between human values and consumer purchases. *Journal of Consumer Marketing*, 18(2): 102 – 120.
- Ampuero, O. & Vila, N. (2006). Consumer perceptions of products packaging. *Journal of Consumer Marketing*, 100 – 112.
- Bloch, P.H. (1995). Seeking the ideal form: Product Design and Consumer Response. *Journal of Marketing*, 59(3), 16 – 29.
- Bone, P.F. and Corey, R.J. (2000). Packaging ethics: Perceptual differences among packaging professionals, brand managers and ethically – interested consumers", *Journal of Business Ethics*, 24(3), 199 – 213.
- Brown, M. (2008). The power of packaging. Retrieved March 8, 2009, from <http://www.marketresearchworld.net/index.php?option=com-content&task=view&id=2355&Itemid=76>
- Butkeviciene, V. Stravinskiene, J. & Rutelione, A. (2008). The Impact of consumer package communication on consumer decision making process. *InzinerineEkonomika-Engineering Economics* (1), 57 – 65, 2008.
- Dileep, K.M. (2006). Role of packaging in marketing product and organization. www.indianmba.com/faculty-column/Fc337/fc337.html.
- Gershman, M. (1987). Packaging: positioning tool of the 1980's. *Management Review*, 76(8), 33 – 42.
- Gold, P. (2004). Assessing what consumers see. *Brand packaging* 4, 40 – 42.
- Gonzalez, M.P., Thorhsbury S, and Twede D. (2007). Packaging as a tool for product development: Communicating value to consumers. *Journal of Food Distribution Research*, 38 (1), 61 – 66.



- Griffin, R.C., Sacharow, S. & Brody, A.L. (1985). Principles of Package Development, 2nd ed. Van Nostrand Reinhold, New York.
- Grossman, R.P. & Wisenblit, J.Z. (1999). What we know about consumers' colour choice, *Journal of Marketing Practice: Applied Marketing Science*, 5(3), 78 – 88.
- Hari Govind. & Deepak, J. (2012). The impact of packaging in consumer decision making of Namkeen product, *Journal of Marketing & Communication*, Vol.7, Issue 3, p.48-63.
- Hume, M. M., Sullivan, M.G. (2010). The Consequence of Appraisal Emotion, Service Quality, Perceived Value and Customer Satisfaction on Repurchase Intent in the Performing Arts, *Journal of Service Marketing*, vol. 24, no. 2, 170-182.
- Imran, N. (1999). The role of visual cues in consumer perception and acceptance of a food product, *Nutritional and Food Science*, Number 5, September/October 1999, 224 – 228.
- Ju, R.S. (2003). A study on brand image for the packaging design of regional products (Master's theses, Ming Chuan University, 2003). *Electronic theses and dissertations systems*, 091MC00619005.
- Jugger, S. (1999). The power of packaging, *Admap Magazine*.
- Kang, M.L. & Chen, C.H. (2005). The study of the planning and evaluation of the packaging visual design of local agricultural speciality products: A case study of "Chen-Shuan-Mei organic products" in Hsin-I country of Nantou county. The conference of Package Design: *Creative, Marketing, & Culture* (95 – 108), Taichung: Taiwan.
- Khalid, H.M. (2006). Consumer emotional needs in product design. *Concurrent Engineering*, 14(3).
- Klimchuk, M.R. & Krasovec, S.A. (2006). Packaging design: successful product branding from concept to shelf. Hoboken, New Jersey: John Wiley & Sons Inc.
- Ladipo, P.K. & Olufayo, T.O. (2011). The multiple role of packaging in the entire marketing process channel of distribution and consumer perspective, *International journal of business administration*, vol.2,4, p.181-189.
- Nacarrow, C., Wright, I. & Brace, L. (1998). Gaining a competitive advantage from packaging and labelling in marketing communications. *British Food Journal*, 100/2, 110 – 118.
- Nah-Hong, L.N. (2007). The effect of brand image and product knowledge on purchase intention moderated by price discount. *Journal of International Management Studies*, Vol. 2.
- Rettie, R. & Brewer, C. (2000). The verbal and visual components of package design. *Journal of Product Brand Management*, 9 (1), 56 – 70.
- Rundh, B. (2005). The multi-faceted dimension of packaging. *British Food Journal*, Vol. 107 No 9, 2005, 670 – 684.
- Sara, R. (1990). Packaging as a retail marketing tool. *International Journal of Physical Distribution and Logistics Management*, 20(8), 29 – 30.
- Schreiber, E. (1994). Retail trends shorten life of package design. *Marketing News*, 28 (25), 7.
- Silayoi, P. & Speece, M. (2004). Packaging and purchase decisions, *British Food Journal*, Vol. 106 No 8, 607 – 608.
- Silayoi, P., & Speece, M. (2007). The importance of packaging attributes: A conjoint analysis approach, *European Journal of Marketing*, 41 (11/12), 1495 – 1517.
- Sinclair, C. & Knowles, A. (2006). Packing a punch: using packaging as effective advertising and communication to build your bottom line, *Market Research Society*, Annual Conference.
- Sogn-Grundvag, G., & Ostli, J. (2009). Consumer evaluation of unbranded and unlabelled food products: the case of bacalhau., *European Journal of Marketing*, 43 (1/2), 213 – 228.
- Sonsino, S. (1990). Packaging design: graphics, materials and technology. London: Thames and Hudson.
- Staniewska, R. (2008). Consumer Opinions on The Informational and Promotional Function of Unit Packaging of Dairy Products. *Polish journal of natural sciences*, Vol. 23, 506-520.
- Thomson, M., Macinnis, D.J. & Park, C.W. (2005). The ties that bind: measuring the strength of consumers' emotional attachment to brands. *Journal of Consumer Psychology* 15 (1): 77 – 91.
- Underwood, R.L., Klein, N. M., & Burke, R. (2001). Packaging Communication: attentional effects of product imagery. *Journal of product and Brand Management*, 10(7), 403 – 422.



Vazquez, D., Bruce, M. & Studd, R. (2003). A case study exploring the packaging design management process within a UK food retailer, *British Food Journal*, 105(9), 602 – 617.

Vila, N. & Ampuero, O. (2007). The role of packaging in positioning an orange juice, *Journal of Food Products Marketing*, 13 (3), 21-48.

Wang, R.W.Y. & Chou, M.C. (2009). Consumer comprehension of the communication designs for food packaging. *International Conference on Research into Design (ICoRD' 09)*, Part-D: Human Factors, Aesthetics, Semantics and Semiotics (321 – 330), Bangalore, India.

Wells, L.E, Farley, H., & Armstrong, G.A. (2007). The Importance of Packaging Design for own-label Food Brands, *International Journal of Retail and Distribution Management*, 35 (9), 677 – 690.

Yang, C.T. (2001). A study of the optical illusion of the packaging containers' volume: a comparison between the prismatic bottles and cylinder bottles. *Taiwan Journal of Arts*, 67, 17 – 32.