EXPLORING CONSUMER KNOWLEDGE AND USAGE OF LABEL INFORMATION IN HO MUNICIPALITY OF GHANA

Edem Maxwell Azila-Gbettor
Simon Mesa Kwodjo Avorgah
Ho Polytechnic, Faculty of Business and Management Studies,
Department of Marketing. Ho, Ghana
Evelyn Delali Adigbo
Takoradi Polytechnic, Faculty of Business and Management Studies,
Department of Marketing. Takoradi, Ghana

Abstract

This survey examines the relevance of label reading and consumer product choice within the Ho Municipality in Ghana. A descriptive univariate analysis was applied for the study. Self-administered questions were completed by 1,800 respondents, selected using both proportional quota and convenience sampling techniques from supermarkets and small stores. Conclusively, the study revealed low level of label reading among consumers on the basis of gender and age categories. Furthermore, for those who read, there is a strong link between label information or knowledge and their purchasing behaviour. It is thereby recommended that consumers should be supported through education by the appropriate mandated agency to know the benefits of label reading.

Keywords: Label, Readings, Consumer, Purchasing Behaviour, information

Introduction

Since Stanton R Avery manufactured the word's first self-adhesive labels and made it into successful business in 1930's, labelling has become mandatory for all packaged consumer products. Labelling is aimed at guaranteeing consumers access to complete information on the content and composition of product, help them make the right choice, protect their health and interest. In the views of Lin et al. (2004) and Dimara & Skuras (2005), a label acts as information source to consumers and provides knowledge about food items and dietary intake and Davies & Smith (2004) asserted, it is the only means by which responsible food choices can be made. Furthermore,

provision of a label forms an important element of consumer protection and according to Cowburn & Stockley (2004), consumers have as much right to know the nutrient content of the foods they choose to purchase as they do to know its country of origin and that it is safe to eat. Research into labeling and consumer's choices have gathered much momentum in recent times. A study by Glanz et al. (1989) indicates that consumers increasingly repeat that they need information in order to make rational choices in the food market. Allen et al. (2001) also found out from a study of patients understanding and use of snack and package nutrition labels that majority of consumers do not understand snack food nutrition labels well enough to make informed dietary choices. Additionally, a study by Kasapila & Shawa, (2011) in Malawi also discovered that 73.8% of the consumers do not understand the numerical information and terminology used in labelling.

Labelling formats have been defined by guidance and legislation in every country. In Ghana, the labeling requirement is based on the Codex Alimentarius Standards (1985). Per this standard, products are to bear "appropriate information to ensure that adequate and accessible information is available to the next person in the food chain to enable them to handle, store, process, prepare and display the product safely and correctly and a lot or batch number available for easy identification and recall if necessary" (Ababio, et al. 2012, 571). According to the Food Law in Ghana (PNDC L 305B), it is an offence to offer for sale food that is not of nature, substance and or quality. Amidst this laws and the benefits of labels, the shelves of both small and big stores and supermarkets are awashed with unwholesome products (expired, unlabeled, badly labeled, non-certified and products labeled in different languages other than English, the official language of Ghana), which are being confiscated by Ghana Standard Board (GSB) and burnt/destroyed almost every week in the clear view of the public. While readings and understanding of products labels is important for preventing health hazards issues, it is a common perceived knowledge in Ghana that most consumers do not (i) read and (ii) even those who read do not understand the labelling information's put on products mainly for several reasons. The question that need to be asked is, do Ghanaian consumers read labels and understands it regarding the choice and usage of information on product level. The purpose of this study is therefore to ascertain the label reading habits of consumers and determined how labels affect the choice and usage of products.

Literature Review

Labelling research draws from a wide variety of theoretical perspectives. The various theoretical approaches in labelling research reflect the diversity in the issues addressed in terms of data source and data analysis

techniques employed by researchers. Among the theoretical views includes characteristics theory (Anderson et al., 1992; Lancaster, 1991); prospect theory (Burton & Andrews, 1996; Kahneman & Tversky, 1979) and Psychological models (Cole & Balasubramian, 1993; Cole & Gaeth, 1990). The most significant of which is the economics of information approach proposed by Stigler (1961) to model nutrition label use. Per his theory, the use of nutritional labels or nutrient content is considered an act of information search and the consumer searches for product information, such as nutrition labelling, as long as the additional costs of searching do not outweigh the additional benefits of searching (Nagya et al., 1998). In formal terms, consumers will maximise the utility of their purchase decisions by looking for information until the marginal cost of the search exceeds the marginal value (Nelson, 1970; Stigler, 1961). According to Senauer et al. (1991), consumers' make decision to buy a product after searching and evaluating the meaning of information on nutritional labels. Labels according to Héroux et al. (1988) are one of the most important features of product packaging, and they are designed to communicate a message. Coulson (2000) reiterated the purpose of labels is to inform and educate consumers on diet and health, which according to Wandel (1997) may result in knowledgeable consumers who make responsible purchasing decisions. Caswell & Padberg (1992) discuss the possibility of food labeling as a tool for dealing with the imperfect information problem in food safety. Caswell (1991) argues that an effective label may transform a product from being an experience good to a search good. Turner (1995) argues that the general consumer would depend to a large extent on food labels in their purchasing decision because of the immense range of pre-packed foods available, consumer awareness of the risks associated with food and of the practices used in food production

Economists such as Pauly & Satterthwaite (1981) and Kenkel (1990) have documented the significance of consumer information and knowledge with respect to consumer behaviour. Research into the significant importance of whether reading labels affects purchasing behaviour of consumers is varied. Derby & Levy (2001) report that, in 1990 diet and health survey, one-third of consumers altered their choice of product due to label information. Underwood et al. (2001) and Silayoi & Speece (2004) found out that packaging elements act as a tool for differentiation. This helps consumers to choose the product from a wide range of similar products and stimulates customers buying behaviour. Findings from research by Kempen (2011) on food label influence on South African consumers purchasing behaviour suggested that respondents evaluate product quality, personal benefits, health attributes and nutritional values from reading food labels. Additionally, Abbott (1997) and Hawkes (2004) found that nutrient information does

affect food choice. Furthermore, Baltas (2001) found that nutritional information affected brand choice. Avoidance of negative nutrients was the most common reason cited for use of label information (Shine et al. 1997). In similar studies by Teisl et al. (2001) results suggest that labeling of food products, with respect to their nutritional characteristics along with an information campaign to educate consumers, can significantly affect consumer behaviour. In examining socio-demographic and nutritional health related factors on consumers' use of labels when shopping and comparing different brands base on nutrients, Nayga et al. (1998) concluded that consumers are likely to use labels in shopping when they place higher premium on nutrition, dietary guidelines, comparing products and when consumers are educated. Kozup et al. (2003) concluded in examining making healthful food choices that when favourable nutrition information or health claims are presented, consumers have more favourable attitudes toward the product, nutrition attitudes, and purchase intentions, and they perceive risks of heart disease and stroke to be lower.

Moore & Lehmann, (1980) argues that several factors are influential in the extent of information search by consumers. These factors are classified by Drichoutis et al. (2005) into (i) individual characteristics; (ii) situational, attitudinal and behavioural factors; (iii) product class involvement factors; and (iv) nutrition knowledge of the product. Ippolito & Mathios (1990) have long suggested individual characteristics affect information search behaviour. Past researchers have found that information search is affected by various demographic factors such as age, gender and education. Whilst Burton & Andrews (1996) discovered that the elderly see label reading less understandable Bender & Derby (1992) deduce from a further study that the elderly reads only the ingredient list and the younger ones reads both ingredient list and nutritional labels. A further study by Cole & Balasubramanian (1993) associates increasing age to decreasing probability of using labels. However Coulson (2000) and Drichoutis et al. (2005) discovered exact opposite from their studies. Whilst Katona & Mueller (1955) and Schultz, (1975) also links higher levels of information search to more education, Bender & Derby (1992) concluded from a research that better educated individuals exhaust both nutritional labels and ingredient lists when searching for information. Kim et al. (2001) and McLean-Meyinsse (2001) found that females in general, are more likely than men to use nutritional labels because males do not agree that nutritional information is useful. Whilst Bender & Derby (1992) concludes that males tend to focus on ingredient lists females in contrast pay attention to information about calories, vitamins, and minerals (Drichoutis et al. 2005) and they tend to use both nutrition labels and ingredient lists (Bender & Derby, 1992).

Also found to be relevant to information search is situational, behavioural and attitudinal factors. Katona & Mueller (1955) and Feick et al. (1986) has discovered that time pressure has had an effect on nutrition information search. Specifically, income and working status has been found to affect nutritional label. (Kim et al., 2001; McLean-Meyinsse, 2001; Nayga, 2000). Other strong linkages discovered by researchers that affects the use of nutritional label by consumers include; time spends by consumers on grocery shopping (Nayga et al. 1998); working people (Drichoutis et al. 2005); motivation due to perception of risk (Feick et al. 1986); type of household (McLean-Meyinsse 2001; Feick et al. 1986); current diet status of consumers (Kim et al. 2001; Nayga, 2000; Wang et al. 1995); importance consumers place on certain food attributes (Thayer 1997; Rose, 1994); taste (Drichoutis et al. 2005; Nayga, 2000) and nutritional knowledge (Kim et al. 2001; Levy & Fein, 1998; Szykman et al. 1997; Guthrie et al. 1995; Moorman & Matulich, 1993; Bender & Derby, 1992)

Methodology

The survey was conducted on consumers at supermarkets of various sizes located in the Ho municipality. They study was design mainly to cover the age and gender characteristics of the research participants. They survey was conducted in the evening and market days when the patronage is normally high. A total of 1,800 respondents were non-randomly sampled for this research. Both quota and conveniences sampling method were adopted in the case selection. Proportional quota sampling was used to select respondents in order that the sample characteristics (Age and Gender) which are the focus of the study will be representative of the population (Singleton & Straits, 2010). Convenience sampling was further employed in each case to select the most readily available respondents, until the required sample size has been achieved in each case (Oisín, 2007). A quantitative research approach was best suited for this study as it allows the researchers to examine the relationship between variables of concern which are measured numerically using statistical technique (Saunders et al 2012). In addition, descriptive strategy was adopted because the researcher's wanted to identify and obtain information on the characteristics of a particular issue, thus measure the conditions and relationships that exist (Jackson 2009). In the instance of this study, the objective of the researchers was to become more familiar with influence of independent variable (product label) on dependent variable (product choice) with sample characteristic age and gender as mediating variable. Self-administered questionnaire was designed and administered to evaluate the awareness and importance of food label information to consumers in Ho municipality. The questionnaire was designed to establish the gender and age profile of the respondents,

assessment and distribution time of label reading, elements considered in label reading, situational and attitudinal factors that influence information search by consumers and influence of label reading on product choice and usage. Closed-ended questions specifically "list questions" were offered to respondents to choose from in the assessment of the distribution time and elements considered in label reading. Situational and attitudinal factors that influence information search by consumers and the effects of label reading on consumer behaviour factors were rated on a five (5) point item Likert scale (1= strongly agreed; 2= agreed; 3= normal; 4= disagreed; 5=strongly disagreed). The Likert format was used to determine attitudes, views and experiences of healthcare consumers (Shaw *and Pieter* 2000). The questionnaire was administered in 9 sections covering 200 questionnaires by 10 trained research assistant between January and June 2013. The SPSS statistical package was used in data input and was analyzed descriptively by computing frequencies and percentages for identifiable variables.

Results and Discussion

Table 1 below measures the age and gender distribution and the extent of the assessment of label reading and time distribution of label reading base on demographic profile of consumers. A proportionate sample of 900 (50%) male and 900 (50%) female was used for the study. On the basis of age distribution, 700 (38.89%) of the research participants are aged 30yrs and below, 750 (41.67%) are within the ages of 31-59yrs and 350 (19.44%) are aged 60yrs and above. It is important to note that apart from gender where the researchers set out to select proportional cases, the sample distribution base on age were determined after data collation. The distribution reveals that large majority of respondent who shopped in the area covered for the study is within the 31-59yrs age bracket.

Table 1. *Respondent Demographics Profile and Percentage Distribution of Assessment of Label Reading and Distribution of Label Reading Time.*

Demographic Profile of Respondents								
Gender		**Freq**	**Percentage**	**Age**	**Freq**	**Percentage**		
Male		900	50	≤ 30yrs	700	38.89		
Female		900	50	b/n 31-59yrs	750	41.67		
				60yrs +	350	19.44		
		Assessment of Label Reading				**Distribution Time of Label Reading**		
		Rarely	**Occasionally**	**Often**	**Always**	**B/4 Purchase**	**Before Usage**	**Comparing Products**
Gender								
Male	**F/%**	220 (24.44%)	350 (38.89%)	201 (22.33%)	129 (14.33%)	325 (47.79%)	143 (21.03%)	212 (31.18%)
Female	**F/%**	172 (19.11%)	311 (34.56%)	245 (27.22%)	172 (19.11%)	371 (50.96%)	123 (16.90%)	234 (32.14%)
Age								

≤ 30yrs	**F/%**	92 (13.14%)	199 (28.43%)	284 (40.57%)	125 (17.86%)	377 (62.01%)	90 (14.80%)	141 (23.19%)
b/n 31-59yrs.	**F/%**	172 (22.93%)	351 (46.80%)	103 (13.73%)	124 (16.53%)	217 (37.54%)	98 (16.96%)	263 (45.50%)
60yrs +	**F/%**	128 (36.57%)	111 (31.71%)	59 (16.86%)	52 (14.86%)	102 (45.95%)	78 (35.14%)	42 (18.92%)

Source: *Field Survey January - June 2013*

In assessing label reading habits among respondents base on gender, majority of the males, 350 (38.89%) and female 311 (34.56%) reported reading labels occasionally whilst 129 (14.33%) males and 172 (19.11%) females reported reading labels always. Furthermore, a significant proportion of the respondents thus 220 (24.44%) of male and 172 (19.11%) of female rarely read labels at all. On the basis of age distribution, results indicates that 284 (40.57%) of participants aged 30yrs and below read labels often, 351 (46.80%) and 111 (31.71%) of participants within the age of 31-59yrs and 60yrs and above reads labels occasionally. However, 128 (36.57%) of the respondents aged 60yrs and above rarely read labels. In combining two of the categories that represent effective label reading thus "**Often and always**" the study further reveals that label reading is low for both female; 417 (46.33%) and males; 330 (36.66%). Also 409 (58.43%) research participants aged 30yrs and below compared to 227(30.26%) b/n 31-59 yrs. and 111 (31.72%) age 60yrs above read labels. In conclusion, it can be seen that females and 30yrs and below age group are better at label reading compared to males and other age groupings respectively.

In further assessing the distribution time of label reading, majority of respondent 325 (47.78%) of male and 371(50.96%) of female reads label before purchasing a product. Similarly in considering age groupings, 377 (62.01%) of research participants aged 30yrs and below, 217 (37.545) of within 31-59yrs. and 102 (45.95%) of age 60yrs and above reads labels before purchase. It can be seen that label reading before purchase is high among age 30yrs and below group and higher for females than males. Also label reading for comparing product is low among male 212 (31.18%) and female 234 (32.14%). For age groups, it higher for within 31-59yrs, group thus 263 (45.50%) compared to the others. The study further shows a poor reading of labels in relation to before product usage in exception to above 60yrs group which is relatively high at 78 (35.14%).

Table 2 below measures the most important label component considered by consumers. Respondents were asked to select three (3) most important labels information they considered when buying a product. On the

basis of gender, information from the table indicates that 328 (45%) female and 213(31%) male respondents refer to product date, nutritional information and instruction for usage and 189 (26%) female and 177 (26%) male research participants considered product date, nutritional information and storage Information. In the consideration of age distribution, a similar pattern is realized. Thus 302 (50%) aged 30yrs and below, 280 (48%) aged between 31-59yrs and 124 (56%) aged 60yrs and above combined product date, nutritional information and instruction for usage followed by 117 (19 %) aged 30yrs and below, 131 (23%) aged between 31-59yrs and 45 (20%) of aged 60yrs and above look for product date, nutritional information and storage information on products.

Further analysis of the results by disaggregating the various components as they appear in each row shows that large majority of the respondents; 91% female, 80% male, 97% aged 30yrs and below, 95%, aged between 31-59yrs and 60yrs, rate product date as the most important factor when reading product labels. This is followed by nutritional information: 90% female, 84% male, 86% aged 30yrs and below, 78%, aged between 31-59yrs and 85% 60yrs and above. Contact information score low on the following two dimensions: it score 8% for male, 4% for aged between 31-59yrs and 3% for age 60yrs and above. Net weight also score low on all dimensions considered thus: 3% for female and ages between 31-59yrs, 4% for male, aged 30yrs and below and 2% for aged 60yrs and above.

In terms of gender differences, a lot more females rate all factors higher than male except for storage information where 52% of male rate it higher compared to 37% of female and product guarantee where 15% of male rate it higher compared to 5% of female.

Table 2: *Respondents View on Label Component Considered by Consumers When Reading Labels.*

	Female		**Male**		**≤ 30yrs**		**b/n 31-59yrs**		**60yrs +**	
	F	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
PD, NI & IU	328	45	213	31	302	50	280	48	124	56
PD, NI & SI	189	26	177	26	117	19	131	23	45	20
PD, NI & CI	80	11	52	8	67	11	23	4	6	3
NI, PG & SI	36	5	99	15	15	2	18	3	9	4
PD, NI & NW	22	3	27	4	22	4	17	3	4	2
PD, SI & IU	43	6	72	11	79	13	99	17	32	14
Other combinations	29	4	40	6	6	1	10	2	2	1
Total	**728**	**100**	680	**100**	**608**	**100**	**578**	**100**	**222**	**100**

Source: *Field Survey January - June 2013*

PD*= Product date,* ***NI****= Nutritional Information,* ***IU****= Instruction for Usage,* ***SI****= Storage Information,* ***CT****=Contact Information,* ***PG****= Product Guarantee and* ***NW****= Net Weight*

The results of attitudinal and situational factors that influence information search by consumers are exhibited in **Table 3** below. Results suggested that all respondents agree that the factors assessed to a larger extent have an influence on information search and the desire to read labels. For the factors evaluated, 1,379 (97.94%) agrees consumer's educational level influence information search, 1,164 (82.67%) agrees perception of risk level influence consumers information search, 1,408 (100%) agrees consumers current health status level influence information search and 1,155 (82.03%) agrees time available to be spent on grocery by consumers level influence information search.

Table 3: Respondents Views *on Situational and Attitudinal Factors That Influence Label Information Search*

	SA	**A**	**N**	**D**	**SD**
Educational level of Consumer	909 (64.56%)	470 (33.38%)	29 (2.06%)	ns	ns
Perception of Risk by Consumer	392 (27.84%)	772 (54.83%)	213 (15.13%)	31 (2.20%)	ns
Current Health Status of Consumer	406 (28.84 %)	1002 (71.16 %)	ns	ns	ns
Time available to be spent on grocery by consumer	352 (25.00 %)	803 (57.03 %)	79 (5.61 %)	107 (7.60%)	67 (4.76 %)

Source: *Field Survey January - June 2013*
SD*– Strongly Disagree,* ***A*** *– Agree,* ***N****– Neutral,* ***A****- Agree and* ***SA*** *– Strongly Agree*

Table 4 below evaluates the extent to which label reading affects purchasing behaviour of consumers. Results from table indicate that all respondents used in the study who read labels agree label reading affects their purchasing behaviour. On whether respondents understand what they read, while 720 (51.14%) of the respondents in some way do understand, 288 (20.45%) do not understand what is read at all. When asked further why they found understanding label difficult, majority indicated their inability to understand labels was due to terminologies used in product description and numerical information used.

Influence on brand choice, repurchase decision and increases in the desire to purchase are three variables used in evaluating the ways that reading affects purchasing behaviour. The finding relating to the three variables indicates consistent results. Thus 930 (66.05%) of respondents agree to label reading influencing choice of brand, 1,099 (78.05%) of respondents agree label reading influence repurchase decision and 1,208 (85.79%) of respondents indicates label reading influence their desire or need to purchase.

Table 4. *Label Reading Effects on Consumer Purchasing Behaviour*

Label use affect purchasing behaviour		
	Freq	**Percentage**
Yes	1408	100
No	0	0

Whether Consumers Understand What They Read		
	Freq	**Percentage**
Very well	400	28.41%
Somehow	720	51.14%
Do not understand	288	20.45%

The Ways That Label Reading Does Affect Purchasing Behaviour					
	SA	**A**	**N**	**D**	**SD**
Influences the choice of brand	491 (34.87%)	439 (31.18%)	225 (15.98%)	197 (13.99%)	56 (3.98%)
Influence repurchase decision	577 (40.98%)	522 (37.07%)	225 (15.98%)	42 (2.98%)	42 (2.98%)
Increases the desire/need to purchase	589 (41.83%)	619 (43.96%)	172 (12.22%)	16 (1.14%)	12 (0.85%)

Source: *Field Survey January - June 2013*
SD*– Strongly Disagree,* ***A*** *– Agree,* ***N****– Neutral,* ***A****- Agree and* ***SA*** *– Strongly Agree*

Conclusion

The primary functions of food labelling regulation is to protect the end consumer by offering them the privilege of knowing what they are buying, in light of challenges of choice pose by ever increasing variety of products coupled with sophisticated and complex collection of packaging and labelling information. However, in Ghana, there has always been a growing concern about the lack of consciousness of label reading among consumers. This empirical study is therefore aimed at revealing the respondent view on label reading habits, components look for in reading labels and its effect on consumer choice behaviour.

Findings from the study suggest label reading is generally low among the respondents. A phenomenon that can be narrow down to low illiteracy rate in the country and most importantly, lack of citizens education on the benefits of reading label. However, in terms of gender distribution, females are better readers of labels than males which is consistent with study of (Kim et al 2001; McLean-Meyinsse, 2001) and for age distribution, label reading decreases with 60yrs plus group which also concur with the findings of (Cole and Balasubramanian, 1993) and respondents aged 30yrs and below are also better reader of labels than other age groups. Furthermore, females and respondents aged 30yrs and below are better than men and other aged group in label reading before purchase. Significant from the study is that both male and female score low in label reading in comparing products which is similar

for other age groups except age group between 3-59yrs. There is also poor reading of labels for all dimensions in terms of before product usage. The low response to label reading in case of product comparison and before product usage is a big worry because there is a likelihood of consumers using an expired good in terms of checking product expired date and it also denied consumers the chance to select the best options when buying.

On three most important label information content respondents lookout for, all respondents for age and gender categories indicate the combination of product date, nutritional information and instruction for usage as a premium in reading labels. Furthermore, product date was rated higher followed by nutritional information and instruction for usage for all dimensions. While contact information of the producer and net weight were however rated so low, most male rate product guarantee and storage information higher than female.

Also significant from the study is the discovery of consumer's educational level, perception of risk level, consumer's current health status and time spent on grocery by consumers influencing information search which is consistent with the findings in the literature (Kim, et al. 2001; Nayga, 2000; Nayga, et al. 1998; Feick, et al. 1986)

Whiles respondents agrees label reading affects purchasing behaviour which is consistent with the findings of (Kempen, 2011; Teisl, et al, 2001), significant of note is majority of the respondents do not understand what is read. A situation again related to the low literacy rate which made it difficult for the consumers to understand the terminologies and numerical information used. Furthermore, majority agreed brand choice, repurchases decision and increases in the desire to purchase are the ways in which their behaviours are influence.

In conclusion it is heart-warming to reveal from the study a certain level of consciousness in label reading and utilization among consumers. However, this still remain insignificant in face of intense liberalization of market which leads to flooding of markets with low grade, badly label, faked products. It is therefore incumbent on authorities mandated to protect consumers to take necessary steps to educate consumers on the dangers of buying products without reading labels.

This study is limited in that, it is localised to consumers in specific area. A generalization of results is a challenge. Further study which covers wider area and more heterogeneous sample is recommended.

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