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## QUALITY STANDARD LABELING INFORMATION ON MEAT PACKS DEMANDED BY CONSUMERS AND RELATIONSHIPS WITH PURCHASING MOTIVES

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### ABSTRACT

*Worldwide, food-safety crises debates have come forward as an important aspect and apart from all debated food items, meat is accounted at top. Hence, a study was conducted to identify public awareness and adoption toward food certification standards and the factors that associate to Halal, SLS, ISO and HACCP purchase intention of meat. Purposive sampling approach was adopted and data were collected from 100 consumers who purchase meat products for their consumption through pre-tested structured questionnaire by personnel interview. The model explained  $R^2 = 0.69$  and  $R^2 = 0.61$  of the variability in awareness and adoption, respectively about the factors motivate consumers toward food certificate logo on meat packs. Around 80 %, 46 % and 30 % of respondents have recorded as high awareness group with regard to SLS, ISO and HACCP standards respectively. Despite that utility of same information always or sometime on purchasing decision reported as low level. A significant relationship was observed for knowledge and utilizes logo of SLS, ISO, Halal and HACCP with socio demographic profiles including religion, gender, net income, education, occupation, interpersonal and mass media.*

**Key words:** Certificate standards, Meat packs, Awareness, Adoption

### INTRODUCTION

Globally, diet-related health problems have been under heavy criticism during the last decade (Elizabeth, et al., 1998). Also consumers, producers and governments, as well as scientists from a plethora of disciplines, have recently been involved in debates of numerous food-safety crises. From all debated food items, meat is accounted at top (Richardson, et al., 1994; Issanchou, 1996; Becker, et al., 1998). Therefore, food safety has emerged as an important aspect of consumers' meat purchase decisions (Barendsz, 1998, Andreas, et al., 2006). In order to achieve food safety goal, consumers first be motivated to make use of the food label when they purchasing meat because they may help consumers make healthier food

choices and therefore, help to reduce diet-related diseases. On many occasions consumers ignore label information on food pack due to a lack of awareness. Food quality standards (SLS) and food safety systems (ISO, HACCP) and Halaal certification must be managed throughout the food chain from farm to fork to achieve food safety phenomenon. Therefore, it is very important to study public awareness and adoption towards food quality information. So, research into public awareness and decision-making (adoption) towards quality standards on meat packs is chosen as the showcase to discuss food safety issues from the perspective of the demand side of the consumer. Accordingly, producers can

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decide whether they should mentioned safety logos on their product or not. Based on this background this study was conducted with the aim of identifying the public awareness and adoption towards food certification standards and factors associated to Halal, SLS, ISO and HACCP purchase intention of meat.

## MATERIALS AND METHODS

This study was focused on consumers who purchase meat products (raw meat, processed meat) for their consumption. Purposively selected 100 consumers were used in order to find out the relevant information such as awareness and adoption to read food quality logos on meat packs. In addition important factors such as gender, age, religion, occupation, income, education, family background, (age, education and income of the family members) information sources (interpersonal and mass media) and enforcement of these information on regarding attributes in food label were also collected. A scale with five levels (5 = very high, 4 = high, 3 = neutral, 2 =weak, 1 = very weak) for awareness on SLS, ISO, HACCP, Halaal and 3 levels scale (2 = always 1 = sometime 0 = never) was used for determine the adoption SLS, ISO and HACCP, Halaal when purchasing meat products. The Pearson and Kendall's tau-b test was performed to ascertain the relationship between the variables, such as gender, religion, age, education, family background, income, occupation with awareness and adoption to read food quality logos on meat packs. In addition regression model was developed to determine the factors that influence awareness and adoption of certification standards on meat packs.

$$\hat{Y} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \epsilon$$

$\hat{Y}$  = awareness/ adoption of consumers towards certification logos on meat packs

$X_1$  = gender

$X_2$  = age in years

$X_3$  = religion

$X_4$  = occupation

$X_5$  = income

$X_6$  = education

$X_7$  = age of the family members

$X_8$  = education of the family members

$X_9$  = net income of the family

$X_{10}$  = mass media information

$X_{11}$  = interpersonal media información

$\beta_0$  = constan

$\epsilon$  = error

## RESULTS AND DISCUSSION

The sample comprised of consumers aged between 20 and 59. From the 100 respondents participating, 23 % were male and 77 % females. The 28 % of the respondents had personal monthly income between SLR 36,000 and 45,000 (Table 1). The relevance of safety issues on meat and a better understanding of consumer decision making towards meat purchasing became paramount due to distinct changes at the consumer level. Along with increasing importance of quality issues relating to food safety, human health and wellbeing have gained attention, especially with respect to meat production and consumption. Among the respondents, 90 % purchased meat and stated that they purchase; raw meat 25.8 kg and processed meat 2.16 kg, average per annum. There were significant correlations ( $P < 0.05$ ) between the quantity of meat purchased and the factors such as occupation, gender, religion, income, education, market information sources, income and education of the family members (Table 02). Males tended to buy meat products than females. Results argued that personnel income and their knowledge background significantly motivated for meat products purchasing based on nutritional view. This is an

expected result because more educated people may be better informed about the nutritional importance of animal protein sources.

Consumer attitudes toward food safety were influenced by consumers' perceived importance of safety measures, information on the labels and consumers'

opinion regarding the adequacy on food safety and motivation for food safety regulations (Beniwal and Khetarpal, 2000). Seventy seven percent of the respondents perceived that food safety information on food labels are very important and 72% expressed that this information helped them on decision making at purchasing of meat products.

**Table 01: Demographic statistics of the respondents**

Variables	Frequencies (%)					
	Male 23 (23%)			Female 77 (77%)		
Sex	Male 23 (23%)			Female 77 (77%)		
Family size	3 24 (24%)	4 41 (41%)	5 25 (25%)	6 7 (7%)	7 3 (3%)	
Religion	Buddhism 58 (58%)		Islam 22 (22%)	Christianity 20 (20%)		
Education categories	<10 19 (19%)	11-13 54 (54%)	Graduated 21 (21%)	Post graduated 6 (6%)		
Age categories	20-29 7 (7%)	30-39 39 (39%)	40-49 40 (40%)	50-59 14 (14%)		
Occupation categories	None 19 (19%)	Self employed 16 (16%)	Technical grades 57 (57%)		Staff grades 8 (8%)	
Income SLR'000	<10 11(11%)	11-25 19(19%)	26-35 19(19%)	36 -45 28(28%)	46 < 3(3%)	Other 20(20%)

Among the respondents 99 %, 74 %, 34 %, 34 % and 37 % respectively had obtained marketing information regarding meat products by family members, friends or relatives, neighbors, progressive persons and officers, frequently or occasionally. Respondents claimed that, they get marketing information from mass media such as newspapers (67 %), radio (88%), television (99 %), farm literature (40 %) and internet (19 %) frequently or occasionally. This knowledge may facilitate increasing the efficiency of quality certification standards perceived and thereby decreasing the cost of

negatives on expense in health related problems.

Kupiec and Revel, (2001) stated that a "quality attributes" is defined as tangible or intangible product feature which influence quality perception directly upon consumption. Dimara and Skuras, (2003) stated that the importance of certification as extrinsic quality cues varies among consumers and thus the use of such quality cues targets specific segments of the market. Regression analysis was used to analyze the factors that influence the

awareness and adoption of consumers towards meat packs.

**Table 02: Relationship of demographic variables with the meat purchasing, awareness and adoption to read the food label information**

	Meat purchasing	Awareness	Adoption
Gender	0.15 (p =0.004)	0.26 (p =0.000)	0.21 (p =0.002)
Age (years)	-0.05 (p =0.58)	-0.08 (p =0.39)	-0.02 (p =0.09)
Religion	0.38 (p =0.000)	0.01 (p =0.892)	0.004 (p =0.996)
Occupation	0.29 (p =0.003)	0.21 (p =0.114)	0.03 (p =0.075)
Income	0.05 (p =0.002)	0.10 (p =0.313)	0.06 (p =0.124)
Education	0.113 (p =0.011)	0.27 (p =0.007)	0.26 (p =0.01)
<b>Family members</b>			
Age	0.018 (p =0.861)	-0.11 (p =0.279)	-0.24 (p =0.087)
Education	0.215 (p =0.032)	0.32 (p =0.001)	0.62 (p =0.000)
Family income	0.069 (p =0.000)	0.195 (p =0.057)	0.181 (p =0.071)
<b>Information source</b>			
Mass media	0.229 (p =0.022)	0.51 (p =0.000)	0.56 (p =0.000)
Interpersonal media	0.275 (p =0.006)	0.45 (p =0.000)	0.43 (p =0.000)

Of the twelve variables considered, the explanatory variables accounted for 69 % ( $R^2= 0.69$ ) and 61 % ( $R^2= 0.61$ ) of the variability in awareness and adoption, respectively about the factors motivate consumers toward food certificate logo on meat packs. Gender, individual's education, family member's education, interpersonal and mass media affect consumers' total awareness and adoption toward food certificate logo on meat packs (Table 02). The model shows, following equation 1 and 2 for awareness and adoption toward certification standards in meat packs.

$$\text{Awareness} = 3.02X_1 + 0.483X_6 + 0.12X_9 + 2.02X_{11} + 2.19X_{12} + \epsilon \dots \text{(i)}$$

$$\text{Adoption} = 4.16X_1 + 0.38X_6 + 0.212X_9 + 2.46X_{11} + 3.23X_{12} + \epsilon \dots \text{(ii)}$$

Further positive relationship also existed between the level of education and SLS ( $r = 0.59, p= 0.003$ ), ISO ( $r = 0.62, p= 0.000$ ) and HACCP ( $r = 0.56, p= 0.02$ ) standards, which motivated consumers to look into the SLS ( $r = 0.46, p= 0.000$ ), ISO ( $r = 0.41, p= 0.000$ ) and HACCP ( $r = 0.42, p= 0.000$ ) logo when they buy meat. Other than that female were more aware about SLS ( $r = 0.32, p= 0.001$ ), ISO ( $r = 0.44, p= 0.000$ ) and HACCP ( $r = 0.41, p= 0.000$ ) than males. This situation was similar for female adoption of SLS ( $r = 0.34, p= 0.001$ ), ISO ( $r = 0.30, p= 0.002$ ) and HACCP ( $r = 0.38, p= 0.000$ ) when purchasing meat items. Overall, women, especially mothers, with higher levels of education are most likely to read food certificate logos. This may be attributed to the fact that men are generally less interested

in nutrition and health than women (Nayga, 1999). This argued men are less concerned about food safety issues than women and not concerning food safety when purchasing. And also the relationship between quality expectations and quality experience and its implications for different consumer satisfaction and repeat purchase intent is addressed by Klaus et al (2004). Issanchou, (1996) mentioned the concept of food quality differs from one person to another. As Steenkamp, (1990) pointed out, food quality depends on the perceptions, needs and goals of the consumer.

Respondents were asked to rate themselves of their level of knowledge and adoption about food quality aspects. About half of respondents (80 %) knew about SLS in meat. Nevertheless only 46 % and 30 % of respondents knew about meat ISO and HACCP. More than half of respondents, claimed to be always or sometime they (61 %) read SLS logo in meat when they do purchasing. Around 21 % read always or sometime ISO whereas 22.2 % sometime seek HACCP in meat items respectively. ISO and HACCP are the least food quality determining factors among meat purchasing participants, and it was mentioned by participants with the highest level of education only.

SLS, ISO and HACCP standards (hazard analysis and critical control point) cover aspects of hygiene, sanitation and food safety throughout the food manufacturing and food servicing chain. Further, Halal recognized as a new benchmark for safety and quality assurance. Slaughter method is a very important attribute of meat to almost all respondents; however it is significantly more important to meat purchasing behaviour of Muslims. This is an expected result because religion influencing consumers' knowledge and adoption of "Halal". Therefore Muslims buy Halal meat even though brand was not familiar to them. It is an additional requirement for Muslims is that they require

food to be Halal because their lives are guided by Islamic Law. Around 34 % respondents seek out Halal logo when they purchase meat. Moreover it is not only seen from the religious viewpoint, Bernues et al., (2003) confirm that young women are strongly in favour of a quality label for Halal meat. Delener, (1994) stated the "Halal" aspect is now undeniably accepted as a quality system worldwide that appeals to both Muslims and non-Muslims as well due to reassurance of the slaughter method and convenience in shopping. Quality standards can be used to transmit important information to consumers on food safety measures (Verbeke and Viaene, 1999). On many occasions consumers ignore the food quality information due to lack of awareness. Grunert, (2002) pointed out quality logos can give consumers another means of inferring experience and credence characteristics of food products. Sanchez et al., (2001) has been reported a positive relationship between the presence of quality standards and aspects related to food safety.

## **CONCLUSIONS**

Improved knowledge of the relationship between consumers' food selection and socio-demographic factors and consumers' preference of a specific type of information on food labels affect for usage of food certification logos. Based on these producers, distributors, marketing staff and policy makers can pedestal their quality and marketing plans in order to increase consumer confidence toward meat quality and simultaneously increase meat consumption. Therefore implementation of food safety awareness programme is focusing on an information approach referring to meat certificate logos. Consequently, it could be stated that must incorporate to bridge the widening gap between consumer knowledge and actual utility about food safety issues.

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