Factors Affecting Consumers Attention To Nutrition Labels On Food Packaging

Mikhael Abdul Ghani[1], Arifha Mohamad[2], Nur Hidayah Mohamad Nizam[3]

[1,2,3]Faculty of Business Management and Professional Studies, Management and Science University, Seksyen 13, 40100, Shah Alam, Selangor, Malaysia

[2]arifha_mohamad@msu.edu.my

ABSTRACT

The importance of awareness of nutrition labels on every food packaging is very significant. This research investigates whether the customers pay attention to nutrition labels and what factors drive the attention of the customers to nutrition labels when shopping. The objectives of this research are to identify the physical variables of the nutrition label that motivate customers, to examine the relationship between the demography of the customers and the usage of the nutrition labels and to investigate the customer's concern that motivates them to read nutrition labels. This will help us to determine the types of situational factors affecting the usage of nutrition labels. Labels are used by retailers in food packaging to help consumers with information. It is a medium to send product information to consumers. It is important to provide information to consumers when purchasing a product. It is also a tool for consumers to use in purchasing decisions.

Keywords

Nutritional labels; Individual demography; Product design; Dietary concern, Ingredients.

Article Received: 10 August 2020, Revised: 25 October 2020, Accepted: 18 November 2020

Introduction

'You are what you eat' is a phrase about what we consume can affect our lives. It is for our bodies to function efficiently, we need to consume food that contains variety of nutrients that are good for our bodies and not to forget, our minds as well. Food labels give helpful information to help buyers, consumers need to be aware of the labels and observe the messages. The purpose of this research is to gain knowledge of consumer's awareness, attitudes and practices to health concerning issues when regards to nutritional labels. There is limited usage and understanding among consumers and the importance of educating them.

The reason for the research is to have a deeper understanding of the consumers buying behavior when it comes to the nutrition labels. We want to know the reasons behind their behavior towards certain food products based on their labels. We want to understand if the consumer is aware of it or ignores labels. The importance of the nutrition labels should be aware of the public as it shows the nutrient content of the food product in order to see the consumer's perception towards nutrition as food products attribution. (Angela,1997) and to identify the consumers behavior when reading the nutrition label during shopping for food (Higginson,2002). We can also look from the view of motivation factor for the customer to participate more in waste management. The extrinsic motivation occurs when people act out of obligations, lack of choices or act because expect some kind of reward or avoid punishment and guilt (Al-Jubari & Mosbah, 2019). There are numerous innovative parts in CRM, however on the off chance that an organization focuses on the innovation, (Jalal, Bahari, Tarofder, & Musa, 2019) to improve the food waste management. Which can also relate with team-based structure for a problem solving. An organization are increasingly utilizing team-based structures for coordinating work and completing projects. Thus, it is imperative for those creating, and performing in, teams to understand and utilize effective processes which lead to high performance (Ibrahim, Johar, & Rahman, 2018). This research is to study the attitude of the consumers towards food nutrition.

Literature Review

Food labels are used in marketing, but it is also used to reveal important information about the product, so they are informed when purchasing an item. It is to show if consumers are paying attention to labels provided on packages and their likeness towards certain information than another. It is to understand the effects of consumer's attention on nutritional labels, manufacturer will need this to improve labelling to influence buying decisions in marketplaces. Labels are used by retailers in food packaging to help consumers with information. It is a medium to send product information to consumers. The technological advancement nowadays contribute to the consumers' behavior and initiative can be taken by the company to inform the nutrition of the product. According to Usman, Jalal and Musa (2012), in order to have an electronic customer relationship management, the company requires all the necessary information about the customers, such as their daily activities to be tally with the company's business activities.

Attention is a way our senses take notice of something; it also limits its choices to certain available information. In this process the mind processes information based on a perceive likeness of a person, thus it will influence its behavior. We are consistently being subjected to continuous endless impressive display of internal and external stimuli, thought and emotion. With so many available data, it is so amazing that we are able to make sense of everything.

There is a restriction of someone to pay attention and the amount for someone can contain an information, a concept

that was used to explain this is the bottleneck, which the narrower the bottleneck, the lower the rate of flow.

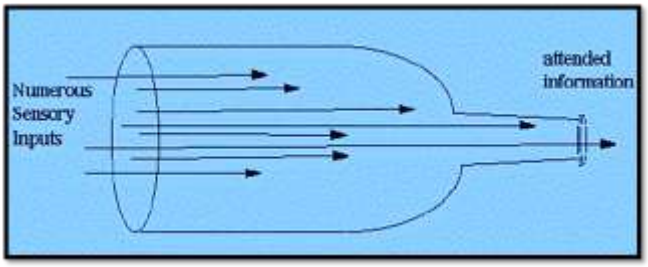

Figure 2.1 Bottleneck Theory

This concept has been used to explained that humans can't consciously attend to all information from the sensory at the same time.

Broadbent Filter Model

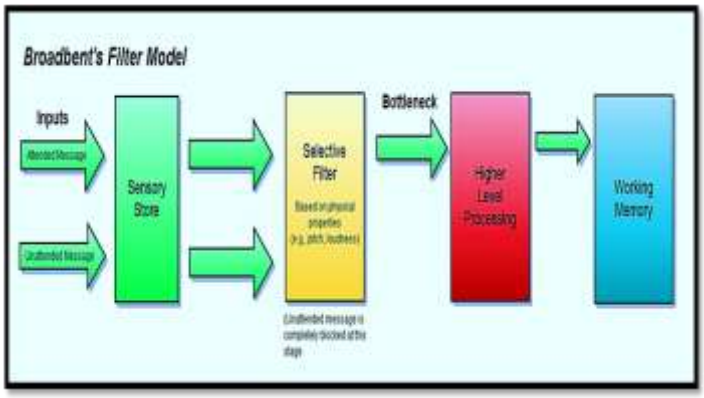

Figure 2.2 Broadbent Filter Model

Donald Broadbent has made a model called the filter model of attention in 1958. Information are stored in a temporary memory area in the brain where all sensory timuli will enter at a given time. The sensory inputs will then choose one of them based on physical attributes of a stimuli. The input then passes through a filter. The filter is used to stop overloading information entering the information processing system. Other inputs that are not selected will wait for their turn and are kept in a storage in the sensory store before they are processed.

According to this model unattended inputs stored may be lost slowly overtime. An experiment was done when doing this model, it is called a dichotic listening task, where a message is sent from the right ear and another message in the left. In conclusion, people would repeat messages that are sent ear by ear, and not by the order they were heard.

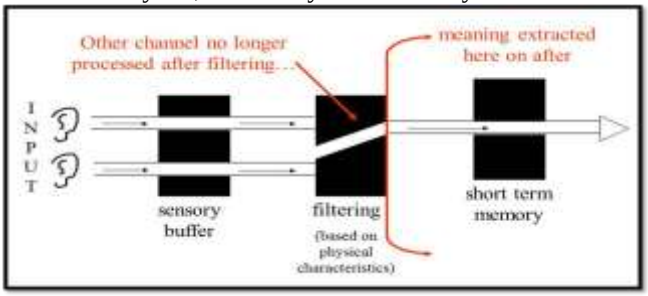

Figure 2.3 Broadbent Model

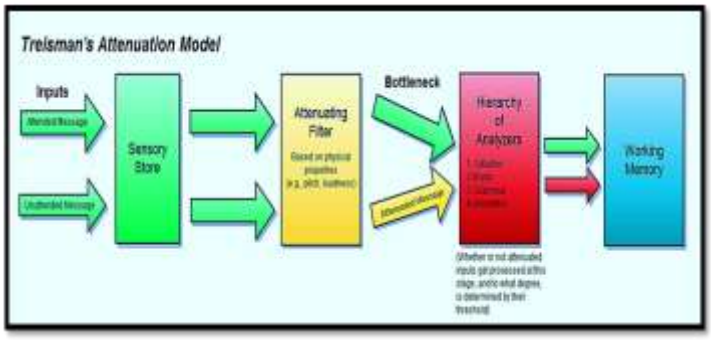

Figure 2.4 Treisman's Attenuation Theory

This model was proposed by Anne Treisman, she developed a model in 1964 on the theory of selective attention. The theory was an extension based on Broadbent's model, which believes that a filter selects a certain input but, in her model, there is a difference. She said that sensory inputs that are left and stored are attenuated by the filter and is not lost overtime. Attenuation is a process where the inputs that were not selected are processed in a lower intensity. Attention is much stronger when it is louder and continuous because the input was kept and not lost. Other examples include the word fire is perceived to be much more important than the word red.

Different words have different chances of going through due to a threshold effect. It is a minimum amount of activation needed to make a conscious awareness of a stimulus. It will easily make through into awareness while high threshold does not. A meaning of a word will determine its importance. Personal information such as names or signaling of dangers have low threshold so it is more recognized and will pass the filter stage, in conclusion, meaningful words are easily processed, and can be recognized at a lower volume. Less important words will get filtered.

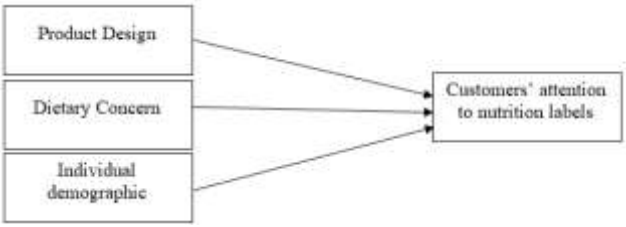

Figure 2.6 Conceptual Model

Based on the reviews above, we developed a conceptual model that shows the relationship between customers' attention to nutrition labels and variables such as product design, motivation, and individual demographic.

Product design is one of the factors that affects the customers' attention to nutrition labels on food packaging. The product design must have an attractive design such as good color schemes, the display size of the nutrition label, position of the label and the format of the label. The format of the label must be simple so that customer can read and understand the nutrition label easily.

H1: There is a significant positive relationship between the product design and the customers' attention to nutrition labels.

Other than product design, dietary concern also plays a huge role that affect the customer's attention to nutrition labels on food packaging. Nowadays, most people have dietary concern such as allergies, lactose intolerants, health issues such as obesity, low or high blood pressure, cholesterol level and sugar level. Some people also on therapeutic medication and they also have some ingredients that they need to avoid. Other than that, some people just wants to lose weight so they need to be concern about what they are eating.

H2: There is a significant positive relationship between dietary concern and the customers' attention to nutrition labels.

Last but not least, the factor that affects the attention of the customers' attention to nutrition labels is their demographic status. Demographic such as age and gender can be the reason why drives customers' attention to the nutrition labels because some food is not meant for children to eat. Other than that, we can see that some food also not suitable for pregnant women.

H3: There is a significant positive relationship between the customers' demography and the customers' attention to the nutrition labels.

Methodology

This research is using a secondary data which the resources are collected by other researchers by questionnaires that was published and used. It is consisting of reports of past events; the information gives a secondary data as a source of guideline for secondary research for making the next research.

The design of instrument was made with questionnaires. It is a type of data collection method. It is developed with a pre-formulated set of questions that respondent's answers are recorded. It is a method to explain a situation in natural setting. It is cheap and relatively less time consuming. It is to collect large numbers of data.

Questionnaires are collected at an area where the behaviour and pattern is taking place. It is easier to collect data in a short time period. Any questions can be cleared and asked at the given place. Answers that are collected by respondents are usually direct answers. This only requires minimal skills. Moreover, questionnaires can be distributed online on social medias, websites, blog and etc. This can capture a wider area of people and extremely easy to do.

Questions that are asked are pertaining the demographic of respondents such as the sex, education and etc. To be able to obtain important data the questions must be effective for respondents to respond. Logical questions related to the study are asked.

3.2.1 Sampling Strategies

Surveys are important to find research questions from collected data and analysis, thus it is important to get correct answers to help solve the problems, sampling representatives are respondents which answers surveys.

3.2.1.1 Sample

The population refers the group of people that are under the interest of the research that will be investigated. With this data the research is able to make a conclusion on the findings.

3.2.1.2 Sample Frame

This refers to the group of people which the data is drawn, a group of population being sampled.

The group of people are widely spread around the Shah Alam area. Although there are a few and ridiculously small percentages of international people that answered the questionnaires as it done online, it reached to different people from different countries too.

3.2.1.3 Random Sampling

The sample are picked randomly, it is not bias and is picked to representing sample. The respondents will answer the questionnaires when they receive from virtual platforms that was shared to them.

3.2.1.4 Sample Size

The sample size is several populations that is measured to represent the sample. The data frame was drawn from 202 respondents.

Results and Discussion

Sample Descriptions

Table 4.2.1 Frequency and Percentages of Participants' Gender

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	102	50.5	50.5	50.5
	Male	100	49.5	49.5	100.0
	Total	202	100.0	100.0	

As we can see from this table, it shows us the percentage of the gender of our respondents. From this data, we have gained almost a half percentage of both male and females. We wanted to know about the gender of our respondents because we wanted to know whether gender effects the decision making of buying food products that has a nutrition label or not and how it would affect different genders further more into our analysis.

Table 4.2.2 Frequency and Percentages of Participants Age

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-18	1	.5	.5	.5
	19 - 21	26	12.9	12.9	13.4
	22 - 25	72	35.6	35.6	49.0
	26 - 29	3	1.5	1.5	50.5
	30 +	100	49.5	49.5	100.0
	Total	202	100.0	100.0	

According to this table, it shows our respondents age and with this, it will show us and what age does people start to look at the nutrition label and start to understand the label as well. Normally, people that are above the age of 25 would start to pay more attention of the nutrition label because these people are starting to live more independently whereas the people that are below the age of 25-20 would slowly try to adapt to looking and paying attention at the nutrition label because these are the stages of university and therefore some would live in campus which would have them start to slowly pay more attention to their health. And finally, the people are below the ages of 20 would not really start to care about looking at the nutrition label or about their health because they are relying from their parents that are more focused on their health.

Table 4.2.3 Frequency and Percentage of Participants Marital Status

Marital Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	96	47.5	47.5	47.5
	Not Married	106	52.5	52.5	100.0
	Total	202	100.0	100.0	

Another factor that we want to know about our respondents is their Marital status. What we want to know from this data is whether it effects their decision making or not, is being married or not being married going to start to affect the person eating healthy or not. From our understanding, people that are unmarried tend to not really care for their health or they are just able to eat anything they want, whereas, when you are married, either you or your partner tends to start getting into healthier choices of food as they mostly tend to be homemade food with much healthier choices.

Table 4.2.4 Frequency and Percentage of Participants Nutritional Status

Nutritional Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Normal	136	67.3	67.3	67.3
	Underweight	14	6.9	6.9	74.3
	Overweight	45	22.3	22.3	96.5
	Obese	7	3.5	3.5	100.0
	Total	202	100.0	100.0	

Because we want to know about their decision as to whether they are looking at the nutrition label, we need to know about their nutritional status, normally for people that have a nutritional status of normal is most likely really watch their health and what they are eating, sometimes overweight and underweight watches their health as well just a little less that what is needed to. This data will help us determine what are the consumers' thoughts when buying products with nutrition labels when comparing this with the other parts of the survey.

Descriptive analysis

Table 4.3 Descriptive Analysis

Descriptive analysis

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Attention to nutritional label	202	1	4	2.07	1.353
Read the nutritional labels	202	1	5	2.41	1.135
Prefer to buy products that carries a nutritional label	202	1	5	2.30	1.142
Do you switch your brands	202	1	3	1.68	.886
Laval of nutritional knowledge	202	1	5	3.67	1.033
Consumer perception on the nutritional label	202	1	5	3.86	.889
Guarantee of quality and food safety	202	1	5	4.11	.815
Offers me useful information about the product	202	1	5	4.24	.820
I do not understand the information that is provided	202	1	5	2.42	1.244
It contains too much information	202	1	5	2.55	1.273
Valid N (listwise)	202				

Descriptive analysis is used for describing the basic features of the data. These statistics would help us to manage the data and present it in a summary table. So, for us, although we only have a few factors it is enough to be able to use to help us and see our basic data. This data will mostly be used for comparisons of the questions. When looking at the data, the questions that we used are all questions that mostly focus on the nutrition factors of our customers, questions like the consumers' level of knowledge or whether the customers would switch the brands if there are no nutrition labels provided etc. Most of the questions are being ranged with 1 being Strong Disagreement and 5 Being Strongly Agree. We can see that there is not really much of a difference between our answers of people becoming more health aware of their food intake as well as their increasing knowledge of nutrient labels and what is said on it. With this data it means that nowadays, many people are becoming more knowledgeable into their health and what their eating on a daily basis especially when the consumers are

becoming more aware of natural made foods rather than having many preservatives in their foods. This also shows to any food companies or companies that are going to enter the food and beverages industry to take into account their nutrition labels as well as their ingredients needed to make their products because of the consumers starting to be more aware of what they are going to eat on a daily basis.
This is beneficial for companies because it shows to them that that consumers are starting to become more aware of what they are eating and with the internet at the tip of their figures, they are able to increase their knowledge of what is needed in their daily intake, they are starting to care for their health and what type of foods they are going to eat which means they will try to find ingredients that are fresh and less preservatives. This also accounts to any premade food they are going to buy which shows how many calories that are going to be eaten for their current meal.

Hypotheses Testing (hypothesis testing)

Regression analysis

Table 4.5.1 Regression Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.407[a]	.166	.153	1.245

a. Predictors: (Constant), Level of nutritional knowledge, marital status, prefer to buy products that carries a nutritional label

Model summary table mainly describes the percentage of variance of dependant variable explained by independent.
Adjusted R square value less than 0.50.
Based on the adjusted r square value, it is clear that 16% variance of customer's attention does not depend on these 3 independent variables.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	60.976	3	20.325	13.113	.000[b]
	Residual	306.911	198	1.550		
	Total	367.886	201			

a. Dependent Variable: attention to nutritional label
b. Predictors: (Constant), Level of nutritional knowledge, marital status, prefer to buy products that carries a nutritional label

Table 4.5.2 ANOVA Analysis

Anova table talks about the model fit.
If the significant value is less than 0.05, at 95% confidence we can conclude that our conceptual model is fit for this study
Based on the significant value, which is less than 0.05, at 95% confidence, we can reject null and accept alternative hypothesis. Hence, we can conclude that there is a significant behavioural differences between the attention to nutrition label which is the dependent variable with level of nutritional knowledge, marital status, and a preference to buy any products that carries a nutritional label.
To identify the behavioural differences, this study use post hoc analysis namely Tukey. Based on the Tukey test, which is presented by the table above.

Table 4.5.3 Coefficient Analysis

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.229	.502		8.421	.000
	marital status	.073	.177	.027	.411	.682
	prefer to buy products that carries a nutritional label	-.093	.081	-.078	-1.141	.255
	Level of nutritional knowledge	-.559	.090	-.427	-6.217	.000

a. Dependent Variable: attention to nutritional label

As long as the T value is more than 1.96, at 95% confidence interval, the variable is significant. The variables are not significant.

Conclusions

Contributions

The contributions that are made for this study is for the consumers to ensure that they are able to receive information about how important their own health is. By paying attention to the nutrition labels, consumers are going to be able to make a right decision into choosing which healthy food s needed and how many calories they should be eating per meal every day.
Another contribution this study is for is many companies that are in the food and beverages industry as well as companies that are thinking of entering the food and beverages industry. With this new study, it will show companies that nowadays, people are beginning to understand the need for a healthy diet which should have them think into putting a nutrition label on their packaging that has enough information for the consumers to understand and choose.

5.5 Limitations

A limitation for our study is that we were running out of time needed to run the survey, we believe if we had managed our time better, it would certainly allow us to be able to promote our survey more. Sample size was also an issue for us because as stated in the first point, we didn't have enough time which resulted us in having only 202 samples, if we were given more time, we thought we would be able to have studied and have a variety of answers for our survey to analyze.

5.6 Further Study

As result, it is wise to collect more data to be able to perform further test of this area of study. There are many other studies that are done about this area of study in many different countries in which we were able to contribute to another of this study area. There are many variables that can be examined and analyzed and compared between each other that would be able to help contribute to companies and consumers' knowledge.

References

[1] Aday, Mehmet & Yener, Ugur. (2014). Understanding the buying behaviour of

young consumers regarding packaging attributes and labels. International Journal of Consumer Studies. 38. 10.1111/ijcs.12105.

[2] Al-Jubari, I., Mosbah, A., Talib, Z., Sulaiman, A., & Jamal, Y. A. (2019). How does culture shape entrepreneurial behaviours? International Journal of Innovation, Creativity and Change, 5(2).

[3] Besler, Halit & Buyuktuncer, Zehra & Uyar, Muhemmed. (2012). Consumer Understanding and Use of Food and Nutrition Labeling in Turkey. Journal of nutrition education and behavior. 44. 10.1016/j.jneb.2012.01.005.

[4] Bialkova, Svetlana & Trijp, Hans. (2010). What Determines Consumer Attention to Nutrition Labels? Food Quality and Preference - Food Qual Preference. 21. 1042-1051. 10.1016/j.foodqual.2010.07.001.

[5] Cecchini, M. & Warin, L. (2015). Impact of food labelling systems on food choices and eating behaviours: A systematic review and meta-analysis of randomized studies. Obesity Reviews. 17. n/a-n/a. 10.1111/obr.12364.

[6] Higginson, C., Kirk, T., Rayner, M., & Draper, S. (2002). How do consumers use nutrition label information? Nutrition & Food Science, 32(4), 145-152. doi:10.1108/00346650210436253

[7] Ibrahim, Z., Johar, M. G. M., & Rahman, N. R. A. (2018). The Quality of Teamwork on Methodology in Software Development Workflow. International Journal of Engineering & Technology, 7(4.28), 510-525.

[8] Ishak, Suraiya & Zabil, Nur. (2012). Impact of Consumer Awareness and Knowledge to Consumer Effective Behaviour. Asian Social Science. 8. 10.5539/ass.v8n13p108.

[9] Jalal, A. N., Bahari, M., Tarofder, A. K. & Musa, W. M. W. (2019). Factors Influencing Customer Social Relationship Management Implementation and Its Benefits in Healthcare Industry. Polish Journal of Management Studies, 19 (2), 196-205.

[10] Mannell, A., Brevard, P., Nayga, R., Combris, P., Lee, R., & Gloeckner, J. (2006). French consumers' use of nutrition labels. Nutrition & Food Science, 36(3), 159-168. doi:10.1108/00346650610664896

[11] Masri, R., Vashu, D., Ahmad, M. A., Azfar, W. M., Abdul Rahman, N. R., & Rahman, N. R. B. A. (2018). The Management Dilemma on The Delivery Of Tacit-Explicit Knowledge In The Diffusion Of Innovation Theory. Turkish Online Journal of Design Art And Communication, 8, 686-692.

[12] Ranilović, J., & Barić, I. C. (2011). Differences between younger and older populations in nutrition label reading habits. British Food Journal, 113(1), 109-121. doi:10.1108/00070701111097376

[13] Shine, A., O'Reilly, S., & O'Sullivan, K. (1997). Consumer use of nutrition labels. British Food Journal, 99(8), 290-296. doi:10.1108/00070709710188390.

[14] Usman, U. M. Z., Jalal, A. N. & Musa, M. A. (2012). The Impact of Electronic Customer Relationship Management on Consumer's Behavior. International Journal of Advances in Engineering and Technology, 3 (1), 500-504.