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Bahir Dar Journal of Business and Economics

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Abstract

Labeling refers to any written, printed, or graphic matter attached to or displayed around food with the intent of promoting or disposing of it. The purpose of this study is to examine if buyers are aware that certain foods contain labeling information and its effect on packed food usage. For the study, explanatory research design was used and the data were collected via self-administered questionnaire in normal delivery to a sample of 385 customers in Gondar. The respondents were recruited using a basic purposive sampling approach. The significance derives from a need to learn more about consumer comprehension and information labeling in the Gondar metropolitan region. The study discovered that awareness, label's format, perception of format and health consciousness were all significant in determining consumers packed food adoption or use.
Keywords: Packed food, Food labels, Consumer awareness, Consumer usage

1. Introduction

Food trade liberalization, increased consumer demand, breakthroughs in food science and technology, improved transportation, and simpler communication have all contributed to an increase in national and worldwide packaged food commerce. Food knowledge and innovative food products are becoming more widely available to consumers all around the world. While these advancements are generally positive, they have raised concerns about the likelihood of customers being misled by food labeling (Liu et al. 2015, Campos et.al., 2011). Customers must be able to read, understand, and interpret food labels, as well as use this information when purchasing packaged items.

Food labeling is an important tool for giving consumers with information about the foods they buy and allowing them to make healthy choices (Hieke et al., 2018). In Ethiopia, a supportive marketing environment that provides food item content is viewed as critical to improving consumer health. The inclusion of nutritional information on food packages can be seen as an

important part of consumer protection and marketing promotion. "Consumers have the same right to know the nutrient content of the foods they purchase as they do to know the country of origin and if the product is safe to eat" (Cowburn & Stockley, 2005).

Labeling in this case includes any written, printed, or visual matter that appears on the label, accompanies the food, or is displayed near the food, including that for the purpose of promoting the sale or disposal of the food (Joint 2007; Mulders et.al., 2018). To aid international trade and globalization, food labels provide information about a specific packed item from the manufacturer to the purchaser. This implies the basic information required to be declared on the labels of packaged foods includes the name or description of the food, a list of ingredients, a list of foods and ingredients known to cause hypersensitivity, a list of net content in the package, the name and address of the local manufacturer or importer, and the country of origin (Shangguan et.al, 2018).

Food labels have been acknowledged as important public health tools for encouraging a healthy diet and increasing overall population health and well-being (Rimpeekool et.al., 2015; Todd & Variyam, 2008). In today's globalized world, where packed food production is fast rising and movement by international and national merchants is developing, ensuring the quality and safety of imported, exported, and locally produced packed food commodities has become a basic necessity (Christoph & Ellison 2017).

In developing countries (Graham et al., 2012), where packed food importing, processing, and people's using patterns are rapidly changing, paying attention to how far consumers have been applying the information provided on labels plays a significant role in public health, customers' food choice, and national economic development by enhancing tourism, national and international trade for packed food production, supply, and distribution of quality and safe food (Gebski et.al., 2019 and Smed et al., 2019). As a result, most packaged goods contain information on the labels, but customers may not get the full benefit unless they read, understand, and apply the information. According to the annual performance report of the Gondar Trade Department (2014), there have been supermarkets and stores with expired food and commodities on the shelf without the essential labeling information. And, as demonstrated in the trade office annual report for 2015 and 2016, and based on medical records from Gondar

university hospital and other private clinics on this poisoning worry, the problem has yet to be rectified, and the long-term threat remains in the city.

In addition to the above report, an investigative analysis from the same trade office inspection in 2015 indicate that about 46.75 kg and 44916 liter expired packed food products were disposed of from 95 shopping locations, even without any labeling information, and in the 2016 year report, 5616 liter and 776 kg expired packed food products, especially coffee-cola and Coca-Cola steam (apple juices) inters, were disposed of from 136 shopping locations by using the border without any labeling information and without any standard. The problem isn't restricted to Gondar, as Ethiopian Broadcasting Corporation reported on September 16, 2017 on expired juices and other packaged food items being imported, endangering people's health. As a result, it's critical to gather up-to-date information on food labeling awareness and usage in general.

Nutrition labeling and use may be an important strategy for encouraging healthy dietary choices and reducing the risk of diet-related chronic diseases, but there is no data on consumer awareness of and use of nutrition labels on pre-packaged foods in the Amhara region in general, or in Gondar city in particular. Furthermore, this research was critical in boosting public awareness and protecting people from health and other related difficulties. As a result, in order to encourage consumers to use labels to make healthier food choices, this study tried to investigate into consumer knowledge and use of labeling information, as well as the factors that influence consumer awareness and use of food labels in Gondar.

Thus, it is necessary to analyze awareness and use of such information among Ethiopian urban consumers in order to optimize the benefits of Ethiopian regulatory tools in the field of food product labeling, as well as voluntary disclosure on the side of food enterprises. As a result, the current study attempts to bridge this gap by determining consumer awareness of and use of information on packaged food product labels in Gondar. Hence, the general goal of this study is to determine how well consumers understand packaged food labeling information so that recommendations can be made to improve consumer awareness. Based on this general objective, the following specific research objectives were formulated and addressed in this study. Hence, the study tried:

- ✓ To find out how labeling format affects customers' packaged food usage

- ✓ To examine how perception affects customers' packaged food usage
- ✓ To examine how awareness affects customers' packed food usage
- ✓ To measure the effect of health consciousness on customers' packed food usage

2. Hypotheses of the Study

The following research hypotheses were formulated and tested:

H1: The label's format has a significant impact on customer usage

H2: Perception has a significant impact on customer usage

H3: Awareness has a significant impact on customer usage

H4: Health consciousness has a significant impact on customer usage

3. Methodology

Explanatory research design was used in this study. This design was chosen because it allowed for the investigation of factors linked to food labeling information awareness and use in packaged goods purchases. Participants in the study are Gondar residents who shop for and buy packaged food in a supermarket. In the Gondar metropolitan city, there are 12 sub-cities and 7 supermarkets, and the researcher distributes the questionnaire and tries to pick customers using a simple random technique after determining daily purchases (average consumers) and the number of days for data collection.

Sample size was determined by using the formula population proportion when the population is unknown the statistical population n is determined as follows:

$$n = \frac{Z_{\alpha/2}^2 P(1-P)}{e^2}$$

Where: n= Sample size, P is the probability of success and which is taken as 0.05, e is the margin of error that is taken as 0.05 and $Z_{\alpha/2}$ is the value form table which is 1.96. Therefore the sample size is calculated as:

$$n = \frac{1.96^2 X \, 0.05 \, X \, (1-0.05)}{0.05^2} = 384.16 \approx 385$$

The questions were adapted from previous studies of Gwantwa (2012) and hand-delivered to respondents and. The questionnaires were designed to address the study's issue, and assistant researchers or data collectors returned them within two weeks, following which the researcher acted on the information acquired to come up with findings. This number of questions included in the standardized questionnaire consisted of 40 questions. To improve data efficiency, questionnaires were first translated into Amharic using appropriate vocabulary, and then the researcher sought to validate all of the questions with the help of data collectors before handing them out to 403 respondents in person.

The two main statistical analytic approaches employed in this study are descriptive and inferential analyses. Descriptive statistics (mean, mode, and percentage) were employed to describe information about the distributions of sample variables. Variance and standard deviation were used to assess variability around a distribution's mean. The relationship between a dependent variable and independent factors was investigated using a statistical method known as multiple regression analysis. This is a method for determining whether or not independent and dependent variables are linked in some way.

4. Result and Discussions

The purpose of this study was to determine how well consumers comprehend food labels and how they use that information when purchasing packaged foods. The findings of the study reveal the perceived importance of food label lines as well as aspects related to reading food labels. The demographics of the survey and the ease with which respondents were chosen at random had a positive impact on gathering a varied range of responses and viewpoints from consumers. The following finding from correlation analysis indicates that all the independent variables are positively and significantly affect the consumers' packed food usage (Table 1). Furthermore, it is revealed in the correlation tables that health consciousness has the strongest correlation coefficient (0.841 with p-value of 0.000).

When we see the correlation coefficients of all the variables with usage it is quite impressive implying that there is a link between usages and labeling format perception, awareness, and health consciousness. The correlation coefficients are 0.276, 0.835, 0.889, and 0.841, respectively. According to Kebir, the correlation between usage and perception awareness, as

well as Health Consciousness, is strong, however the correlation between usage and Labeling Format is poor (2013).

Table 1: Correlation Coefficients

		Usage	Labeling Format	Perception	Awareness	Health Consciousness
Usage	Pearson Correlation	1				
	Sig. (2-tailed)					
Labeling Format	Pearson Correlation	.276**	1			
	Sig. (2-tailed)	.000				
Perception	Pearson Correlation	.835**	.228**	1		
	Sig. (2-tailed)	.000	.000			
Awareness	Pearson Correlation	.899**	.214**	.786**	1	
	Sig. (2-tailed)	.000	.000	.000		
Health Consciousness	Pearson Correlation	.841**	.193**	.726**	.800**	1
	Sig. (2-tailed)	.000	.000	.000	.000	

A systematic strategy for investigating the effect of one or more predictor variable on the dependent variable is regression analysis. It permits claims to be made about how well one or more independent variables predict the value of a dependent variable (Pallant, 2005). In light of this concept, the determinants of packed food usage are used as independent variables in this study and packed food usage as dependent variable. For each independent variable, multiple linear regression analysis was used.

Classic assumption tests are requirement tests for multiple linear regressions in order to obtain a research model before undertaking regression analysis. Accordingly all the assumptions tests such as normality, hetroscdeastcity, linearity, and multicollinarity were checked and all the values fall within the acceptable standards. Finally, the overall model fitness test was checked to see how well the model is fit to analyze the variables considered and found to be significant. Therefore, the following regression table (Table 2) emerges as the final result of the model and interpreted accordingly.

Table 2: Regression Results

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			VIF	Tolerance
(Constant)	.442	.101		4.379	.000		
Labeling Format	.073	.020	.066	3.625	.000	.945	1.058
Perception	.283	.033	.258	8.628	.000	.352	2.838
Awareness	.377	.027	.470	13.762	.000	.270	3.708
Health Consciousness	.254	.029	.264	8.617	.000	.335	2.987

As it can be seen from the above regression table, all of the independent variables have a statistically significant effect on usage of packed food. In this regard, the strongest effect on usage is observed in awareness with beta value of 0.47 and p-value of 0.000. Such effect can be interpreted as a one unit in awareness can have a 0.47 unit increase in packed food usage. Similarly, the second highest effect is attributed to health consciousness with beta value of 0.264 and p-value of 0.000 and the interpretation of beta value given for awareness is similarly applicable here. Although statistically significant, the least effect is observed on labeling format with beta value of 0.066 and still the p-value is 0.000.

Hypotheses Test Results

H1: The label's format has a significant effect on customer usage. The finding indicates that it has a beta value of 0.066 and p-value of 0.000. The default alpha value is 0.05 which is a common level of significance in social science. Hence, it can be concluded that the labeling format has a significant impact on customer' packed food usage

H2: Consumer perception has a significant influence on their behavior. The finding indicates that it has a beta value of 0.258 and p-value of 0.000. Hence, it can be concluded that the perception has a significant impact on customer' packed food usage

H3: Consumer awareness influences consumer behavior. The finding indicates that it has a beta value of 0.470 and p-value of 0.000. Hence, it can be concluded that the awareness has a significant impact on customer' packed food usage

H4: Consumer health consciousness has a significant impact on product usage. The finding indicates that it has a beta value of 0.264n and p-value of 0.000. Hence, it can be concluded that the health consciousness has a significant impact on customer' packed food usage

The above hypotheses test result shows that the four independent variables (labeling format, awareness, perception, and health consciousness) become significant and have strong effect on the use of packaged food implying that people with special health problems, clear or appropriate labeling format, and progress in labeling awareness and perception motivate consumers to read and use packed foods.

5. Conclusion and Implication

The objective of this research was to examine the determinants of packed food usage in Gondar city. Accordingly, the findings indicate that all of the independent variables have a statistically significant effect on usage of packed food. In this regard, the strongest effect on usage is observed in awareness with beta value of 0.47 and p-value of 0.000. Such effect can be interpreted as a one unit in awareness can have a 0.47 unit increase in packed food usage. Similarly, the second highest effect is attributed to health consciousness with beta value of 0.264 and p-value of 0.000 and the interpretation of beta value given for awareness is similarly applicable here. Although statistically significant, the least effect is observed on labeling format with beta value of 0.066 and still the p-value is 0.000.

The findings show that packaging quality and labeling formats have a significant impact on consumers' willingness to read packaged food labels, implying that packaged food producers should improve packaging quality and labeling formats, and that the Food, Medicine, and Health Care Administration should regulate and supervise labeling practices. Increased awareness and perception of packaged food labeling information have both considerable effects on packed food usage, according to the findings of this research. As a result, raising consumer understanding and extending their perception can help them defend themselves.

The findings also reveal that being health-conscious or receiving specific medical treatment has a significant effect on how people read and use labels. This means that people with health issues should pay special attention to labels and thoroughly read and use them. Special public programs targeted at educating consumers about the importance of packaged food labeling information and how to effectively use it to make educated healthy food choices should be planned and implemented by the city's authorized organizations. Consumers should be encouraged to read all of the labeling information and pay more attention when purchasing packaged items when they go shopping.

> **To cite this article:** Getahun, H. & Degoma, A. (2022). Determinants of packed food usage: The case of Gondar city consumers, *Bahir Dar Journal of Business and Economics,* Vol. 2, PP. 34-43.

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