

INFORMATIONAL LABELS ON PACKAGED RICE: AN INVESTIGATION INTO THE MOST PREFERRED FOOD QUALITY ATTRIBUTES

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Introduction

One of the major and increasing preoccupations of food supply system is consumer concerns about the quality of food products. Further, in light of many recent incidences occurred globally, an increasing attention has been paid by both the food marketers and respective governments on the assurance of food quality. The “attributes” of food quality to which all those stakeholders in food industries pay a greater concern in their attempt to assure food quality are classified under a number of “subsets” [1], which include, for example, “pathogens” and “additives and preservatives” contained in the food and the “color”, “size” and “texture” of food etc. In fact, the potential economic and health effects associated with negligence to assure food quality in terms of those important attributes may be ‘large’, ‘quick’ and ‘irreversible’.

In today's world, therefore, consumers would like to know exactly “what is in their food”, and for that reason they are turning to the food labels to obtain this information. Food label, i.e. any tag, brand, mark, pictorial or any descriptive matter written, printed, stenciled, marked, embossed or impressed on or attached to a container of food is, thus, playing a prominent role and acting as a vehicle to the decision made by the consumer by “signaling” the quality of the product underneath to a large extent [2].

Rice is considered a very ‘generic’ product in the consumer markets showing ‘nearly perfectly competitive market’ conditions; however, the current trend is such that it is also subjected to heavy product diversification in terms of packaging, labelling, branding and certification etc. In consequent to these, the rice available in retail markets are accompanied with various ‘information labels’, which, for the most part, are comprised of the brand name, type of rice (i.e. raw/parboiled, *Samba/Nadu*), color (red/white), and manufactured and expiry date as well as the price.

Unlike in most of the developed countries, because of the fact that there are no strict government regulations or specific marketing standards on “what to include in a label”, the food marketers are in the dark with respect to the food quality attributes the consumers highly value, and in turn, what to be included in a food label. This study was aimed to investigate empirically the consumer perceptions about the descriptive product labels on prepackaged rice available in the retail markets in Sri Lanka.

Methodology

Conceptual Framework

The food quality “attributes” classified under a number of “subsets” in Caswell’s food quality classification[1], i.e. food safety (FS), nutrition (NU), sensory (SE), value (VA), process (PR), text (TX) and cues (CU), were used as the framework to determine the most preferred attributes to be included in an information label. Each subset was comprised of several distinct attributes [4], for example, the FS subset includes: heavy metals, pesticide residuals, pathogens and purity.

Collection and Analysis of Data

There were 26 food quality attributes selected (see, Figure 1) and was placed in a structured questionnaire with a small description on how each attribute was related with rice (e.g. color – red, white) and a 5-point likert scale (i.e. 1 = least important to 5 = most important) so that a respondent can state his/her preference with respect to include it in the label. A personal interview was carried out with a cross section of households located within the city limits of Kurunegala, Mawathagama and Wariyapola (n=254), where the member of the household who used to purchase ‘labeled/packed’ rice regularly from the supermarkets/retail shops was contacted to complete the questionnaire during the January to March 2016. In addition, the demographic characteristics and the ‘price premium’ that the given household is willing-to-pay for a “rice packed in a bag with informational label” were collected.

The data from 244 respondents on a scale of 5 for 26 food quality attributes selected was used to derive an Additive Index (AI) [3]. For each attribute, the value theoretically, ranges from “0” to “1”, and in turn, facilitates ranking and ordering of those attributes based on the consumer preference. Once the value of AI pertaining to all attributes representing a particular subset was derived, the Mean AI was also estimated.

Results and Discussion

Descriptive Statistics of Sample

The “female” household member (i.e. wife) has been involved with selecting and purchasing of certain ‘packed/labeled’ rice regularly in 51 percent of households. Further, the age of nearly 56 percent of respondents were within the 35 to 60 years, and almost 80 percent of respondents were educated up to or above Advanced Levels and possess a household income of above Rs. 30,000 a month. Moreover, nearly 77 percent of households purchase rice from the “supermarkets”, while another 14 percent from the “rice wholesalers”. It was found that a household, in general, is willing-to-pay a price premium of Rs. 1.24 for a standard ‘information label’ that is similar to those in other processed products (e.g. cereal, jam, cordial etc.).

Figure 1 illustrates the value of AI for 26 food quality attributes considered in the analysis, which were set (from left to right) in their order of 7 subsets of interest.

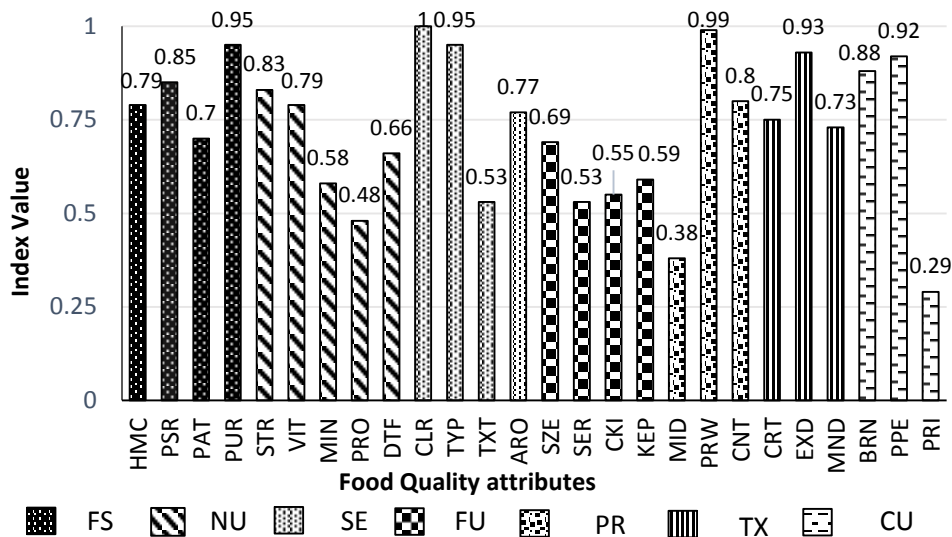


Figure 1. Value of the Additive Index of food quality attributes

Note: The 7 “Subsets” include: FS = Food Safety, NU = Nutrition, SE = Sensory, FU = Function, PR = Process, TX = Text, CU = Cues. The 26 “Attributes” include: HMC = Heavy Metal Content, PSR = Pesticides residues, PAT = Pathogen, PUR = Purity, STR = Starch, VIT = Vitamins, MIN = Minerals, PRO = Proteins, DTF = Dietary Fiber, CLR = Color, TYP = Type, TXT = Texture, ARO = Aroma, SZE = Size, SER = Serving, CKI = Cooking instructions, KEP = Keepability (shelf life), MID = Milling degree, PRW = Processed way, CNT = Country, CRT = Certification, EXD = Expiry date, MND = Manufactured date, BRN = Brand name, PPE = Past Purchase Experience, PRI = Price.

It shows that the value of AI of 13 out of 26 (i.e. 50%) attributes considered were above 0.75, i.e. “highly important” (i.e. AI > 0.75), and further, the value of AI of 5 attributes were above 0.90, i.e. “extremely important”. Interestingly, these 5 attributes belong to five different subsets, i.e. ‘purity’ in the FS, ‘type’ in the SE, the ‘way rice is processed’ (raw/steamed) in the PR, ‘date of expiry’ in the TX, and ‘past purchasing experience’ in the CU. All respondents stated ‘Color’ (Clr) as the most important quality attribute to be included in the label (i.e. AI = 1.0). In contrary, the value of AI of 6 attributes were below (or close) to 0.5 indicating they are not much in use in the context of labelling for rice.

The lowest value (0.29) was reported for ‘Price’ (Pri) suggests that most of the respondents do not seriously consider about indicating price of the rice on the label. This may be attributed to the fact that price of rice has been fluctuating markedly and consumers had an understanding on difficulty in printing the exact price unlike in other packaged food items. In FS, for example, the value of AI of 3 out of 4 attributes taken into account was above 0.75. However, compared to other food items in retail food markets, consumers do not bother about the information with regard to content of protein, mineral and dietary fiber etc. in NU and all attributes under the FU in the label. Another key finding is that the consumers prefer to have a ‘brand name’ in the label, and with that in mind, they used to purchase the same product consistently, i.e. ‘past purchasing experience’.

Figure 2 illustrates the Mean AI estimated for each subset in concern. The results show that consumers require more information with respect to those attributes pertaining to FS, SE and TX.

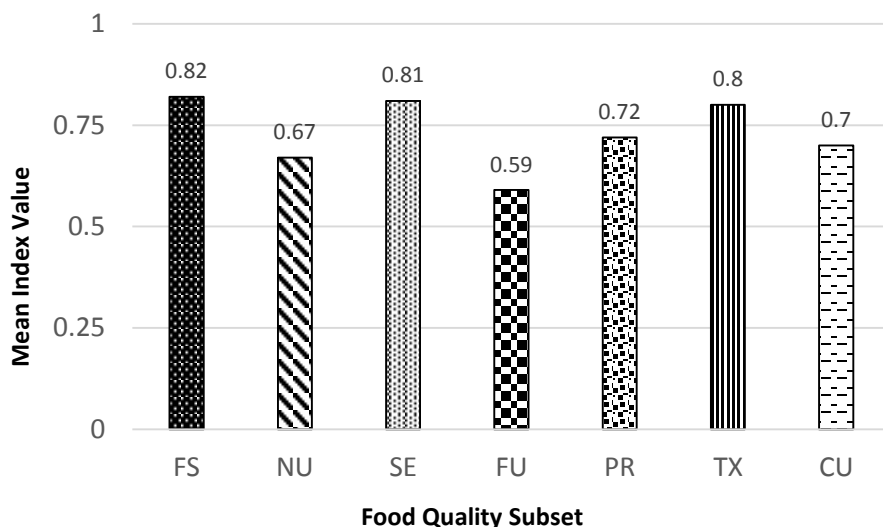


Figure 2. Mean Index Values of Food Quality Subsets

Note: FS = Food Safety, NU = Nutrition, SE = Sensory, FU = Function, PR = Process, TX = Text, CU = Cues

Conclusions

The outcome of analysis implies that in the case of rice, in general, the consumers wish to have a sort of assurance through an information label that the product that they purchase is “free and safe” with respect to those attributes showing “*Credence*” characteristics such as heavy metals, preservatives and pathogens in the food as they cannot judge on the presence of which even after consumption. They consider that the only way to get rid from those issues is to have a kind of ‘certification’ from the producers about those non-searchable attributes. Since such information is hard to find and/or to request from the food marketers (without a cost), they believe on the brand names, and as a result, do repeatedly purchase the same. This can be considered a way to avoid negative effects associated with those attributes with Credence nature, because consumers believe that a label containing a brand name help them to “*Search*” (i.e. information at the point of purchase) and/or “*Experience*” (i.e. after purchase/consumption) the product and involve with repeated purchasing on same product.

The outcome of this analysis, thus, provides useful information to food marketers to design appropriate labels with ‘full’ and ‘searchable’ information, on the one hand, and the regulators to direct and control the food-value chain through incentive-based regulatory mechanisms to make sure information label tally with those consumer preferences on rice, on the other.

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