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# Consumers' Motivation to Participate in the "One Day No Rice" Policy

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**Abstract.** The one day no rice policy has been emerged aiming to encourage Indonesian consumers to substitute rice with other local food staples and to diversify their daily consumption. This study aims to investigate consumers' motivation to participate in the one day no rice policy. A hundred respondents from Yogyakarta city was interviewed using laddering method of administration. A means-end chain approach was used to analyse data that consists of four steps: laddering interview, content analysis, generating and interpreting hierarchy value map (HVM). The results show that there are three main pathways in the HVM regarding consumers' motivation to participate in one day no rice policy. They are 1). Food habit, 2) fulfil daily needs and 3) supporting local food policy. These motives can be used to promote local food policy particularly encouraging consumers to diversify their daily food consumption other than rice.

**Keyword:** Indonesia, local food, means-end chain, consumer motivation, food policy, rice.

## 1. Introduction

Local food trend is not a new phenomenon. Interests in local foods have been identified since the early 1980s. Eastwood [1, p. 183] reported that "consumers have no strong preferences for or against locally fresh produce". Bruhn [2] then indicated that consumers who shopped in Sacramento and Sonoma, United States expressed their interests to buy locally grown produce if the products had good quality and the price was not higher than they usually paid. Subsequently, local food movements are flourishing in many countries around the world. People who buy and consume local foods, so-called "locavore", are aware of "food miles", the distance the foods travel. In the United States, [3] found strong interests in local foods among Southeast Missouri consumers. In the United Kingdom, local food has been promoted since the early 2000s by the local government. Although it was reported that UK consumers bought their local foods in a small amount, they considered that local foods have better quality and fresher [4]. According to [5] who examined the motivation of purchasing or consuming local foods in Java, Indonesia reported that "good health" together with "low price" are two main determinants of Indonesian consumers when they consume or purchase their locally grown foods.

The government of Indonesia has promoted local food policies since the 1960s'. The Presidential Decree number 14/1974 was issued by the Government of Indonesia aiming at improving people daily diet and acceleration for the consumption of diversified foods based on local resources. Since the early beginning, the Indonesian Agriculture Department focus on food diversification and nutrition program, encouraging Indonesian people to eat more local food grown. "I like Indonesian foods" and "one day no rice" are two slogans aiming at supported local food diversification program. "One day no rice" movement was initially launched by mayor of Depok city. In this program, people were encouraged to substitute rice consumption with other local staple food such as cassava, sweet potatoes, potatoes and others. Although this movement has been being a national program and applied in many areas in Indonesia, there are still limited studies concerning why consumer willing or unwilling to participate in this program. The objective of this study is to examine the consumer motivation why they are eager to take part in one day no rice program in Yogyakarta city using a means-end chain approach.



## 2. Literature Review

### 2.1. *Local food diversification program*

Although the meaning of “local” has been revealed in many scholarly journals, a search of studies to the definition of ‘local’ through official websites of the Indonesian government is still minimal. When raising the question “what is the definition of ‘local’?” Many answers may arise such as place production, geographic differences (physical distance, political boundaries, the border of counties, and region boundaries), driving distance [6, 7, 8], quality [4], and distribution [9]. Some researchers have constructed the meaning of ‘local’ in different ways. According to previously published articles, there are many different perceptions of local foods mentioned by consumers from developed countries background. Generally, “local” food might be related to (a) physical distance, a day’s round trip (b) geographical borders such as county or neighbouring county [10], (c) place of production [9], (d) place distribution and marketing [9], (e) support local farmer and economy [2, 8], and (f) price and quality [2, 4].

One day no rice policy was introduced by Depok major in 2012 to encourage people to diversify their consumption. This program began with the issuance of the Depok Mayor Decree no. 010/27 dated February 10, 2012, which ordered all food vendors not sold rice products in the Depok city hall canteen every Tuesday. The vendors can substitute rice with another source of local carbohydrate such as analogue rice –rice imitation products that made from non-rice food sources. Through this program, people could reduce rice intake and switch to other potential local foods sold in local markets. This program is relevant to local food diversification program that has been strengthening through president regulation No 22 in 2009. The local food diversification program was aiming to diversity people diet and decrease the dependence on rice as the primary source of carbohydrate in Indonesia. As mentioned by [11] the rice consumption in Indonesia in 2013 reached 135 kg/capita/year, and this was higher than Malaysia (81.3 kg/capita/year), Philippine (119 kg/capita/year) and Australia (11 kg/capita/year). This program has attracted attention and appreciation from the central government, and then the program became a national program. Many areas in Indonesia have been adapted to this program such as in West Java by choosing Wednesday as a day without rice. Other provinces that embraced this program were South Sulawesi, Bali and North Sumatra while in Regency or city level, to mention a little, there were Samarinda, Pekalongan, Bandung, Padang and Solo cities together with Sukabumi, Bandung, and Jayapura regencies. However, there is a lack of studies exploring the motivation of consumers why they are willing to participate or not in this program. The result of this study will contribute to the further evaluation of this policy.

### 2.2. *The means-end chain approach*

The Means-End Chain (MEC) approach illustrates consumers' understanding of a product into a hierarchical structural map by linking the attributes the products or services have to consequences of their use. These consequences relate to personal values as the highest level in the hierarchy [12].

Although this approach was originally introduced in the psychological sciences, the method then has been used widely in marketing research in order to understand why consumers prefer to consume or buy a specific product like local or organic foods [5,13] or agricultural policy such as the adoption of good farming practice [14]. The approach consists of 4 steps namely laddering, content analysis procedure, generating hierarchy value map (HVM) and interpreting the HVM. Laddering is a technique used to collect consumer knowledge about a product through an interview in the context of MEC [15]. This technique is a depth, face-to-face interview to reveal consumer understanding and to elicit the attribute-consequence-value (A-C-V) sequential by using a standard question "why this element is important for you?" [12]. A soft laddering technique is an original method using pen and paper was selected due to some advantages such as more complex pictorial with more linkages between A-C-V will be produced [16]. This technique also suited to a topic that has been not much explored before [16, 17]. Content analysis is a systematical evaluation to overview the transcription of laddering interview [18]. The researchers create coding by considering the similar previous studies related to food product using MEC technique. These codings are then classified into attributes, consequences and values.

Attributes are intangible and intangible characteristics of a product such as a length, weight, taste and smell. Consequences can be referred to as psychosocial and social outcomes accruing directly or indirectly after consuming or using a product or service [19]. According to [20, p. 5) personal values can be defined as "an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence". Personal values can be achieved if the consumers can link the attributes of the product to consequences and subsequently lead to personal values.

The next step is to generate the implication matrix that shows the number of time an element leads to another one. The cut-off level concept was employed to ensure the map is useful and informative. A cut-off 4 means that only relations that counted four-time will be presented in the hierarchy value map [12]. Abstractness ratio and centrality index, two indexes developed based on network analysis, can be used to evaluate the classifying responses into A, C, V and to evaluate the role of each element in the hierarchical map [21]. Abstractness ratio range from 0 to 1. The higher the value means that the element act as value and the lower the index refers to the coding as an attribute. In addition, the higher centrality index represents the central role of the elements. This index ranges in between 0 to 1 [12].

### 3. **Materials And Methods**

This study investigates the consumer motivation to participate in one day no rice program among 100 Indonesian consumers who live in Yogyakarta. Judgemental sampling was chosen to select respondents due to practical reasons. Respondents were screening by asking whether she/he knows the one day no rice program and willing to participate in this program.

Laddering interview was used to collect information from respondents during January to March 2018 in the supermarkets and minimarkets that sold local food products. The interview lasted around 20 minutes. Respondents were also asked about their socio-demographic profiles. All sociodemographic data were calculated as a percentage of the total data. The laddering interview results were then analysed using MEC method and presented in the results and discussion section, and some critical points and findings are then discussed.

Respondents varied with respect to their gender, age, education, occupation and how much they spend for local food a week. Table 1 presents the demographic characteristics of survey respondents. Fifty-nine respondents are female. Most of them have completed senior high school. They have different occupations such as an employer, entrepreneur, civil servant and housewife. The age varies from 18 to 68 years old. In term of marital status, most of the respondents are married and have a family income between 1.5-to 3 million IDR/month. Almost two third of respondents have family member between 3 to 4 person. They bought local food at traditional markets (53%) and modern market (33%).

**Table 1.** The characteristics of respondents who willing to participate in one day no rice program.

| <b>Personal information (%)</b> |    | <b>Family characteristics (%)</b>    |    |
|---------------------------------|----|--------------------------------------|----|
| <b>Gender</b>                   |    | <b>Family member (people)</b>        |    |
| Male                            | 41 | 1-2                                  | 24 |
| Female                          | 59 | 3-4                                  | 65 |
|                                 |    | 5-6                                  | 11 |
| <b>Age (years old)</b>          |    | <b>Family income (million IDR)</b>   |    |
| ≤30                             | 28 | ≤1.5                                 | 35 |
| ≤40                             | 27 | ≤3                                   | 46 |
| ≤50                             | 11 | ≤4.5                                 | 11 |
| ≤60                             | 30 | >4.5                                 | 7  |
| >60                             | 4  |                                      |    |
| <b>Education</b>                |    | <b>Local food expense/week (IDR)</b> |    |
| Primary school                  | 9  | ≤50,000                              | 58 |
| Junior high school              | 14 | >50,000                              | 42 |
| Senior high School              | 44 |                                      |    |
| University degree               | 33 |                                      |    |
| <b>Occupation</b>               |    | <b>A place to buy local food</b>     |    |
| Civil servant                   | 16 | Pitchman                             | 3  |
| Employer                        | 30 | Small shops/street vendor            | 11 |
| Entrepreneur                    | 25 | Traditional market                   | 53 |
| Housewife                       | 16 | Supermarket/mini market              | 33 |
| Student                         | 11 |                                      |    |
| Farmer                          | 2  |                                      |    |
| <b>Marital status</b>           |    |                                      |    |
| Married                         | 75 |                                      |    |
| Single                          | 24 |                                      |    |
| Widowed                         | 1  |                                      |    |

#### 4. Result and Discussion

A cut-off four has been selected that represents 27.5% of the active cells and 61.8% of active links from 504 linkages. At this level, there are 22 codes in the HVM (Table 2). As suggested by [12] that a cut-off level of 4 that represents two third of active link can produce a useful and informative HVM. Table 3 shows the Abstractness Ratio (AR) and Centrality Index (CI) of each element at cut-off four. In term of the value of abstractness ratio (AR), the attribute values range between 0.0-0.08 while consequences are in between 0.43-0.67. The values vary between 0.72-0.86. These results are similar to the MEC theory that lower abstractness ratio refers to attributes and higher abstractness value points values. Consequences are in between. In term of centrality index, eating habit of non-rice (CI 0.04) are predominant for attributes whereas healthy (0.11), fulfil family needs (0.08), daily activities (0.06) and harmony (0.06) play important roles in the hierarchical map. Satisfaction (0.06) is the most important attribute for this study (Table 3).

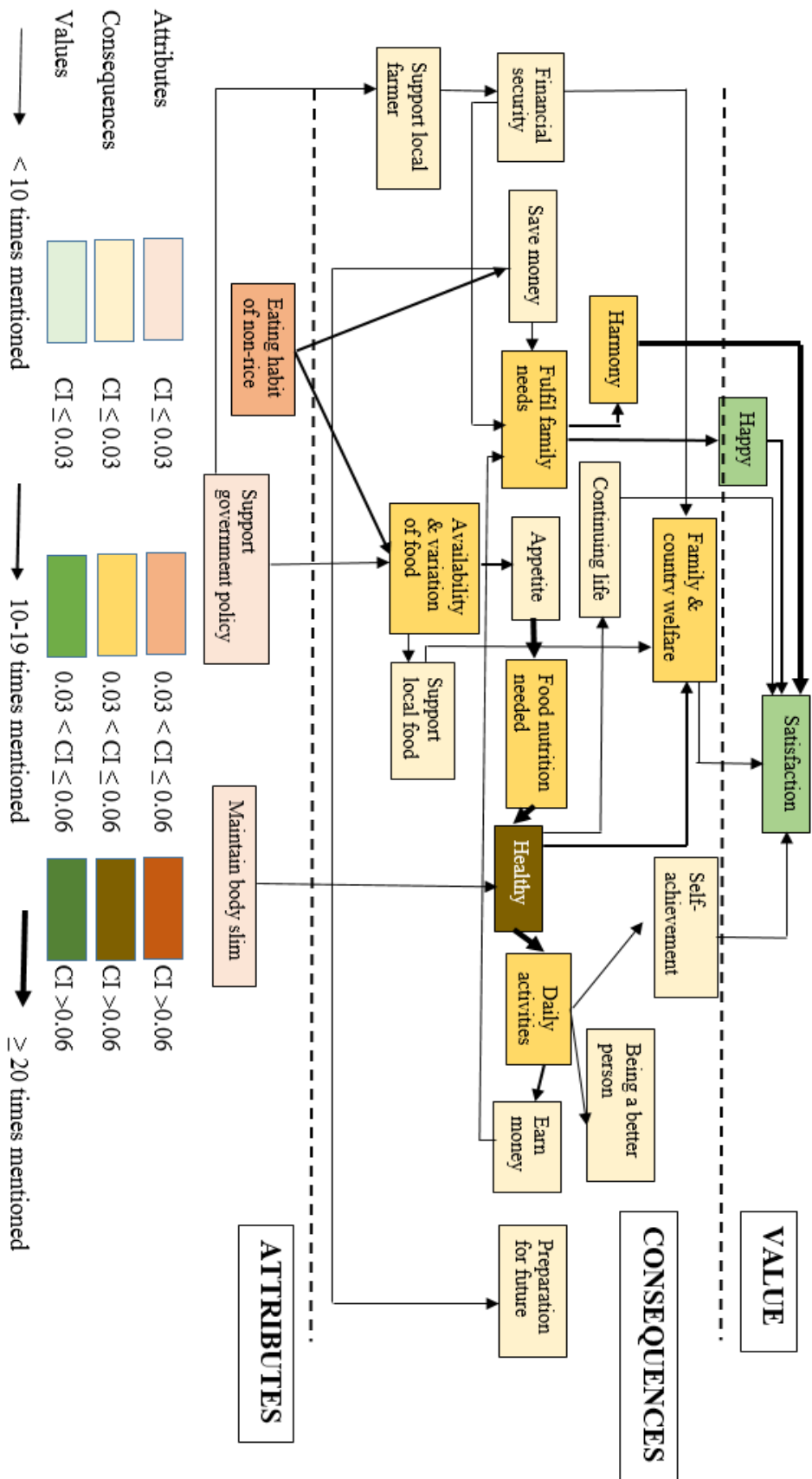
**Table 2.** Abstractness and centrality index of consumers who willing to participate in one day no rice program

| <b>Cut-off level</b> | <b>Active chunks</b> | <b>Active links</b> | <b>Active content codes</b> | <b>Active cell at cut-off level/active cell</b> | <b>Active links at cut-off level/active links</b> |
|----------------------|----------------------|---------------------|-----------------------------|---|---|
| <b>1</b>             | 339                  | 815                 | 33                          | 100   | 100   |
| <b>2</b>             | 334                  | 699                 | 28                          | 58  | 85.8  |
| <b>3</b>             | 332                  | 585                 | 27                          | 37.3  | 71.8  |
| <b>4</b>             | 315                  | 504                 | 22                          | 27.5  | 61.8  |

**Table 3.** Abstractness ratio (AR) and centrality index (CI) of consumers who willing to participate in one day no rice program.

| <b>Attributes</b>                |           |           | <b>Consequences</b>             |           |           | <b>Values</b> |           |           |
|----------------------------------|-----------|-----------|---------------------------------|-----------|-----------|---------------|-----------|-----------|
| <b>Coding</b>                    | <b>AR</b> | <b>CI</b> | <b>Coding</b>                   | <b>AR</b> | <b>CI</b> | <b>Coding</b> | <b>AR</b> | <b>CI</b> |
| <b>Support government policy</b> | 0         | 0.03      | Support local farmer            | 0.43      | 0.03      | Happy         | 0.72      | 0.04      |
| <b>Maintain body slim</b>        | 0         | 0.02      | Healthy                         | 0.42      | 0.11      | Satisfaction  | 0.86      | 0.06      |
| <b>Eating habit of non- rice</b> | 0.08      | 0.04      | Availability and food variation | 0.44      | 0.04      |               |           |           |
|                                  |           |           | Support local food              | 0.47      | 0.03      |               |           |           |
|                                  |           |           | Financial security              | 0.05      | 0.03      |               |           |           |
|                                  |           |           | Food nutrition needed           | 0.05      | 0.05      |               |           |           |
|                                  |           |           | Appetite                        | 0.5       | 0.03      |               |           |           |
|                                  |           |           | Save money                      | 0.5       | 0.03      |               |           |           |
|                                  |           |           | Prepare for future              | 0.5       | 0.02      |               |           |           |
|                                  |           |           | Fulfil family needs             | 0.5       | 0.08      |               |           |           |
|                                  |           |           | Earn money                      | 0.5       | 0.03      |               |           |           |
|                                  |           |           | Daily activities                | 0.51      | 0.06      |               |           |           |
|                                  |           |           | Harmony                         | 0.56      | 0.06      |               |           |           |
|                                  |           |           | Continuing life                 | 0.57      | 0.03      |               |           |           |
|                                  |           |           | Being a better person           | 0.56      | 0.03      |               |           |           |
|                                  |           |           | Family and country welfare      | 0.67      | 0.05      |               |           |           |
|                                  |           |           | Self-achievement                | 0.67      | 0.03      |               |           |           |

The hierarchy value map was generated according to the AR and CI at a cut-off level of 4 (Figure 1). When examining the hierarchical structure, we find three main pathways. The first pathway is related to consumer eating habit of non- rice that leads to family and country welfare. The path is eating habit of non-rice→ availability and variation of food→ appetite→ food nutrition needed→ healthy→ daily activities→ family and country welfare→ satisfaction. This result shows that eating non-rice meals depend on availability and consumers' appetite. If the food match with consumers' taste and available, they are likely to consume non-rice food. They also want to diversify the diet. Consumers hope that by eating a non-rice meal can fulfil the nutrition needed and lead to health. By being healthy, they can do their daily activities to achieve family and country welfare. This can bring self- satisfaction. The second pathway is eating habit of non-rice→ save money→ fulfil family needs→ harmony/happy→ satisfaction. This pathway shows that consumers can save money by eating a non-rice meal. Therefore they can fulfil family needs. This leads to happiness, harmony and satisfaction. The last pathway is supported government policy→ availability, and variation of food→ appetite→ food nutrition needed→ healthy→ daily activities→ family and country welfare→ satisfaction. Respondent habit eating of non-rice is the primary determinant factor in making the decision to participate in one day no rice program. As some of them are familiarise eating other rice, respondents believed that it suits their appetite and lead to healthiness. Therefore, they can do daily activities and fulfil family needs. Supporting government policy is similar motives identified by consumers who shop at a traditional market in Klang Valley, Malaysia. They mentioned that the reason for buying local food at the traditional markets is to support government policy [15]. Smithers et al. [8] also revealed that support local farmer and economy are consumer motivation to purchase local food in Ontario, Canada.





## 5. Conclusion

A means-end chain approach is an effective approach to reveal what motivates consumers to participate in a local food program. This study has twofold advantages: an empirical investigation on the motivation of consumer willingness to participate in the local food program that supported by the government and using a new approach in the direction of analysing food policy. The analysis was presented in a hierarchical value map and can summarise that eating habit of the non-rice product together with support local government program are consumer' motivation to participate in one day no rice program. This research has a limitation in term of only consumers who shop at the modern market in Yogyakarta were interviewed. It is suggested that consumers can be educated by including one day no rice program at government office activities, school programs and office canteen to familiarise people eating non-rice product as the source of their carbohydrate. 'Support government program' can be a slogan to encourage people to involve in one day no rice program.

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