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EDITORIAL

It is my proud privilege to welcome you all to the TheIRES International Conference at Oxford, United Kingdom. I am happy to see the papers from all part of the world and some of the best paper published in this proceedings. This proceeding brings out the various Research papers from diverse areas of Science, Engineering, Technology and Management. This platform is intended to provide a platform for researchers, educators and professionals to present their discoveries and innovative practice and to explore future trends and applications in the field Science and Engineering. However, this conference will also provide a forum for dissemination of knowledge on both theoretical and applied research on the above said area with an ultimate aim to bridge the gap between these coherent disciplines of knowledge. Thus the forum accelerates the trend of development of technology for next generation. Our goal is to make the Conference proceedings useful and interesting to audiences involved in research in these areas, as well as to those involved in design, implementation and operation, to achieve the goal.

I once again give thanks to the Institute of Research and Journals, TheIIR, TheIRES & University of Management and Technology (Sialkot) for organizing this event in Oxford, United Kingdom. I am sure the contributions by the authors shall add value to the research community. I also thank all the International Advisory members and Reviewers for making this event a Successful one.

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STUDY OF PRODUCT DESIGN: PERCEPTION OF PRODUCT USERS IN FUNCTIONALITY AND ABILITY OF PRODUCTS TO CONTROL CALORIES FROM THE ELDERS' MEALS

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Abstract - Foods affect our bodies in different ways and go through different metabolic pathways. Attractive story with simple functional and appropriate font size can be an effective tool to control the calorie when elderly not care in the eating, to the use while pointing to the design element and pictorial. This research thus endeavors to (1) To study the specific characteristics designs principles food packaging calorie-controlled energy to the restrictions for the elderly. (2) To examine the distinctive visual perception packaging food responsible for Energy are able to said that enough calories each day to the elderly. Easier to take care of themselves design. The sample group questionnaires for Pa—Nakhon elders who retire worked in Bangkok areas. Stratified random sampling on 30 people. The data were analyzed through stats, frequency, mean, and percentage. From the study, it was found that preferred competencies of packaging in the prototype one was satisfying at a high level as the structure of the product was relatively practical in terms of logistics and function. All in all, on both types the satisfaction level on both type for start design take care of themselves elderly.

Keywords - Product development, element of design, Community Product, Packaging, Control Calories Elders' Meals

I. INTRODUCTION

This research compares two categories of product. Two types of information are gathered and tabulated with personal contextual variables. The first type of information encompasses perception of elders towards the value and worthiness of different types of product design—elements, novelty, affective impacts, and personal preferences—vis-à-vis the elderly person's contextual characteristics—past experience and expectation. The second type of information comprises elderly's perception towards the attractiveness in terms of visual perception of graphic designs—color, materials, size, and text printing format. Research tools to be utilized include visual stimuli containing different types of variables to be test to solicit response from designated respondents* by means of interview. In this research, the calorie-controlled packages are compared and examine the calorie restriction each day for the elders.

II. DETAILS EXPERIMENTAL

2.1. Objective/ Literature Review

This research thus endeavors (1) To study the specific characteristics design of principle calorie-controlled food packaging for the elders. (2) To examine the calorie restriction from food each day in the elders.

The related theories and concepts of this research are shown as below.

1. Gestalt Theory

Gestalt past experience principle [1,5] means the elements tend to be grouped while the past experiences of observer were together. In this theory,

the observer who look any objects, they will use their experiences to clarify those ones more than the generic shapes which they observed such as circles, ellipses, rectangles as shown in Fig.1.[6]



Fig.1: Illustration of generic shapes in Gestalt law

2. Parent's decision making factors in the area of Past Experience [3]: Past Experience is the structure of main data and observer experiences. In the Gestalt theory, the past experiences of the observer are the important thing to clarify the objects.

- **Expectation [3]:** Expectation is the observer wish in the future for utility assessment of design. Expectation in the previous subsection the expectations of the observer are proportional to the past experiences that observer met before.

3. Design component in the scope of

Element of design and specific composition of product such as colors, materials, size, pictures, font and print techniques.

2.2. Component of the Products to Control

The components of the products to control is a component of the container and the lid of the box. The food packages in market are shown in Fig.2.



Fig.2: Box and Bento Box-Microwaveable [2]

Food packaging products in the market which can use in microwavesuch as box and Bento box. Circular box consists of tray and lid in circular, rectangle or any shape. It cannot separate the foods in to the box. Bento box consists of tray, container and lid. Users can separate foods in the containers. It is very useful for the elders more than box without container.

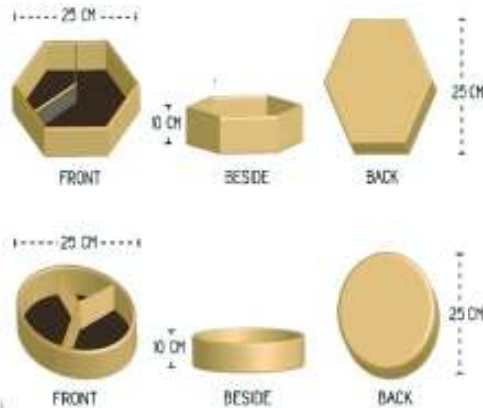


Fig.3 :The proportion boxContainers Sets , sizeLeak Proof Lid For Meal Prep And Portion Control InCompartment Bento Box[4]



Fig.4:Boxof fruitshaped Leak Proof Lid For Meal Prep And Portion Control In Elders' Meals

III. RESULTS AND DISCUSSION

3.1 Research tools

We study the characteristics design of the packaging in variables as follows.

1) Beauty of shape

We divide in two types of food as follows:

- 1.1 meat dish
- 1.2 dessert

We use questionnaires for 30 elders in Pa-nakorn in Bangkok, Thailand.

3.2 Results

1) Beauty of shape

The beauty of shape results of meat dish are shown in Table 1.

Table 1: Results of Beauty for meat dish

Shape	Circle	Square	Pentagon
Elders	5	6	19
%	16.70	20	63.30

It can be observed that the numbers of elder chose pentagon are the greatest. It is 63.30% that more than 20% and 16.70% of square, and circle, respectively

The beauty of shape results of dessert are shown in Table 2.

Table 2: Results of Beauty for dessert

Shape	guava	lemon	melon
elders	6	9	15
%	20	30	50

We can notice that the numbers of elder chose melon shape are the greatest. It is 50% that more than 30% and 20% of lemon shape, and guava shape, respectively.

2) Proportion in the package

We found that the suitable shape of the meat dish package is pentagon and circle shape. Its dimension should be 25x25x10 cm that can use for calorie restriction as shown in Fig.3.

The suitable shape of the dessert package is melon shape. Its dimension should be 25x10x16 cm that can use with the meat dish package for calorie restriction as shown in Fig.4

3) Categories of food

We have designed the categories of food integrated with the proportion of package. The circle shape should split as follows:

- Rice 15%
- Fish 45%
- Vegetable 15%
- Fruit 45%

The pentagon shape should split as follows:

- Rice 30%
- Fish 35%
- Fruit 35%

The melon shape is suitable for fruit that should not split into parts. The categories of food are shown in Fig.5.

In Fig.6, Prototype 1 is very satisfied at a high level as the structure of the product. It is relatively practical in terms of logistical and functional as shown in Fig.5. All in all, on both types can design to take care the elders.



Fig.5: Weight Change as a function of was observed, which were From with Design Perception from Study of Product Design of Products to Control Calories the Elders' Meals



Fig.6 : Prototype 1

CONCLUSIONS

In this paper, we have designed the calorie-controlled food packaging for elders. We use the questionnaires with elder and found that the beauty of shape is pentagon for meat dish and melon shape for dessert. We then found that the circle shape should be separated for 15% of rice, 45% of fish, 15% of vegetable, and 45% of fruit. The pentagon shape should be separated for 30% of rice, 35% of fish, and 35% of fruit. Moreover, we can use the melon shape for fruit without split into parts. Finally, we have designed the prototypes of product for the elders to restrict calories.

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