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Technological Involvement as an Alternative Way to Add an Economic Value for Sustainability of West Java's Packaging Food Souvenirs.

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Abstract

At present, sustainable tourism has become a global issue. Three main aspects that need to be considered by the tourism industry at present and the future are environmental, social and economic aspects. Since 2016, Indonesia's achievements in sustainable tourism have begun to stand out. Food souvenirs become one of the links in tourism which is mostly produced by local MSME. These MSME products require a creative packaging design that is good and has the value of sustainability from an economic, cultural, social and ecological perspective. This can be realized if MSME's entrepreneurs have directed motivation when they want to market their products. Observations that have been made by the research team on the food souvenir packaging design of West Java's MSME revealed that in selling their products, MSME's entrepreneurs are driven only by economic motivation, seen in one of the marketing tools that use non-concept packaging designs and look "me too." Using a simulation of four packaging designs sample from traditional ranges to cyber Augmented Reality (AR) technology, the study will focus on motivations that influence the design of sustainable packaging designs. This study uses the Triangulation method, with more dominant qualitative data obtained from the Focus Group Discussion and supplemented by quantitative data collected from online questionnaires to 82 respondents. There are two findings in this study. The first finding revealed that in Indonesia, packaging designs that use natural/traditional materials still excel in economic, cultural, social, ecological motivation to support sustainability. The second finding revealed that the innovation of cyber technology in the form of Augmented Reality that can be applied to non-natural material packaging designs could be an alternative to sustainability in the economic, cultural, social and even ecological aspects. Through this technology, various information content, as well as promotions, can be included. Packaging design will have additional functions to communicate local culture especially to future generations in a way that is appropriate in this digital era. This will add value to the packaging design and experience that is new to its customers, thus supporting sustainable tourism in Indonesia.

Keywords: Food souvenirs; Motivation; Packaging design; Sustainability.

BACKGROUND

Sustainable tourism has become a global issue. For the present and the future, the three main aspects that must be considered by the tourism industry are environmental, social and economic aspects. Indonesia has implemented the development of environmentally friendly tourism since 2016, after the publication of the Guidelines for Sustainable Tourism Destinations listed in the Regulation of the Minister of Tourism No. 14 of 2016. (cnnindonesia.com, 2018)

Indonesia's achievements in the field of sustainable tourism began to stand out since 2016, which is ranked second after China and in 2018 the islands of Java and Bali were ranked as the top 3.

Minister of Tourism Arief Yahya explained, two things that become the strength of Indonesian tourism are nature and culture, it has been recognized by the

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world in the "World Economic Forum" that Indonesian nature and culture always enter the Top 20 in the world.

Currently 56 million MSME are still one of the leading sectors of the largest economic driver in Indonesia and 70% of them are in the food sector. (presidenri.go.id, 2016). Food souvenirs are included.

This food has a category, which has an expiration date of at least 3 days, so they can be taken to home as souvenirs. Food souvenir is needed by tourists and is one of the links in tourism. Food souvenirs are the result of local culture related to the area or city, for example Garut's dodol, Yogyakarta's bakpia, Malang's apple chips, Bali's milk pie and Manado's Halua Kenari.

Food souvenirs require packaging design and should be able to show the identity of the area of origin, so that if the packaging is taken abroad it will be a cultural ambassador. The packaging design of souvenirs as part of tourism should pay attention to the sustainability side. Sustainability refers to a state of continuity about our responsibilities for future generations. In sustainability it is not only from the ecological side, but also from the cultural, social and economic aspects.

Data obtained from Focus Group Discussions that have been conducted reveal that in marketing their products, Bandung MSME are still driven by economic motivation only. This can be seen from the packaging design of MSME products that are modern, trendy but seen as not having a design concept and impressing "me too".

Through this research will be explored further "motivation" which is a macro level of the process of designing the packaging design using the ATUMICS method. "Motivation" has a small role in giving the physical appearance of an object, but affects the whole conception of the object. Motivation provides the object of a philosophical foundation on the reason the object was created. So that the output of this research will enrich various parties with an interest in the design of food packaging.

LITERATURE REVIEW

ATUMICS method

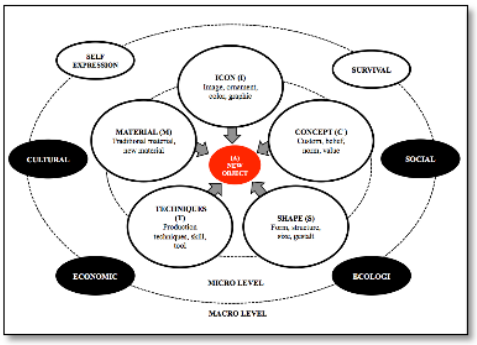

Fig. 1. ATUMICS's method
(Source: Nugraha, 2012)

This method is a way to transform traditional culture into a new form of modern product. The word transformation can mean a process of reshaping, modifying or converting in a variety of manifestations. (Nugraha, 2012)

This method views a product as having two main levels of existence, namely the micro level and the macro level. The Micro Level consists of **Technique** - production techniques, technology, skills, tools. **Utility** - functionality, usability - demand, needs. **Material** - natural materials, synthetic materials, smart materials. **Icon** - pictures, ornamentation, colors, graphics. **Concept** - customs, beliefs, norms, values. **Shape** - shape, structure, size and gestalt is a Micro level. At the Macro Level a product is seen as a consequence and motivated by six aspects, namely self-expression, survival, culture, social, economic, and ecological, all connected to each other. The overall structure of the **ATUMICS** method, with its basic elements and six aspects of motivation, is influenced by the model proposed by Victor Papanek (1984, 1995), Pirkko Anttila (1996), Ahadiat Joedawinata (2005), and Rebecca Reubens (2010).

Four Main Aspects of Motivation to Support Sustainability.

Motivation is another outer circle of the ATUMICS method structure, which deals with aspects that operate at the macro level. 'Motivation' has a small role in giving the physical appearance of an object, but affects the whole conception of the object. Motivation provides the object of a philosophical foundation on the reason the object was created. The

ATUMICS method proposes 6 motivational aspects: economic, social, cultural, and ecological, survival, creative self-expression. Adopting the concept of Papanek for "survival" needs, ecological environment, social-societal and cultural. The first four motivations are considered important in representing the pillars of sustainability Mc Coubrey (2010). Sustainability is about our responsibilities for future generations. Sustainability refers to a state of continuity and sustainable development that maintains sustainability and respects human values. (Nugraha, 2012). Below will explain the four important motivations.

a. Economic motivation

Economics is very important to support the survival of life and the quality of life, and make things continue. A society or country will be in trouble if the economy experiences a serious crisis.

Although very powerful, the economy cannot be the only motivation to produce products. In the principle of the ATUMICS method, economic motivation must be balanced with other motives such as culture, social, or ecological to create an optimal balance.

In the context of individual craftsmen and designers, the economy is primarily meaningful to make a living by producing and selling objects or products. In addition to personal gain, economic issues can be viewed from a larger scale, for example, how revitalization of traditional products can contribute to a sustainable economy of certain communities, and even increase their income.

b. Social motivation

Social aspects deal with the community and society. He refers to interactions between different individuals, and different societies. The idea of including social aspects was circulated in consideration, that this could be an advantage for society if many artifact creations had connections with their social lives. An object can be designed so that it can involve social attachment.

The goal of social motivation is to increase social interaction and collaboration, to support the sustainability of society, to use their intelligence and creativity, artists and designers can propose related design activities that sustain a kind of community based on local production, services and industry.

c. Cultural Motivation

The role of culture is vital and becomes the main motivation for various art creations, crafts, and design objects; ranging from jewelry, eating utensils, and furniture to buildings. Within the development complex, new systems and new artifacts can effectively contribute to maintaining society only if they can adjust to local customs, spirit, norms and culture. In other words, every new application that operates without correlation with traditional or local culture tends not to survive. Foreign or unknown objects that are not rooted in local traditions may bring resistance from local communities. At the macro level, culture is seen as a motivation, which comes from the consideration of sustainability.

d. Ecological Motivation

Sustainable development in ecology means that the ability to maintain and utilize existing resources for today and future generations without reducing their quality. Currently, almost every activity requires consideration of ecological aspects. Businesses and industries begin to include ecology as part of their goals. The biggest challenge that must be faced seems to be how to create healthy ecological products without sacrificing profits and economic value. (Nugraha, 2012)

Differential semantics

Differential Semantics Is a measurement technique in research introduced by Charles Osgood (1957). As a way to study human feelings, attitudes or emotions towards certain concepts that originate from the socio-cultural experience of each. In design research, it is often used to find out people's perceptions of the designs displayed. In this study using numbers 1-5 to measure trends from the lowest to the highest. (Fiske, 1990)

RESEARCH METHODS

This study uses a triangulation analysis method, which uses more than one research method. This method aims to cross check as a means of generating more reliable empirical data. The population used in these two methods is different, with the weight of the same question Bryman (2011). (Sarwono, 2011). In this study the qualitative method is more dominant in the form of FGD followed by quantitative methods to 82 respondents as a complement.

This research is part of the research to examine the macro level, which is part of the design of packaging design based on ATUMICS theory. In addition it will

use a differential semantic method that is a qualitative method that can be measured qualitatively. To measure the weaknesses and advantages of a product, a table of each sample of packaging design is made and assessed based on parameters at the macro level. Measurements use numbers 1 through 5, number 1 is the lowest value, the higher the better or positive.

Object of Research

After observing the typical West Java souvenir food packaging design, the research team designed a simulation of four kinds of packaging designs from locality to cyber technology using QR codes and Augmented Reality (AR). Starting from 25%, 50%, 75%, 100% local content up to 100%. The need to include local content due to the food packaging design is related to local culture and identity. This packaging design will be used as an object of study in the FGD and questionnaire.

A packaging Sample contains a wajit wrapped in dried corn leaves and a basket of baskets and baskets of a kind made of woven bamboo, with a sticker label. Considered to be 100% locality.

Fig. 2. A Packaging Sample A

B packaging Sample - combined packaging-. contains wajit by Tempe wrapping (one of the typical Indonesian foods) using a paper material with West Java's batik motifs. The container uses woven bamboo, equipped with sticker labels or cartons. Considered to contain 75% locality.

Fig. 3. Packaging Sample B

C packaging sample contains Ciwidey strawberry dodol wrapped in plastic with outer packaging made from cardboard and pouch zipper lock. Use Sundanese cultural icons with a modern style. Considered to have a locality of 50%.

Fig. 4. Packaging Sample C

D packaging sample contains Ciwidey strawberry dodol wrapped in plastic with an outer package made from cardboard. Using Sundanese cultural icons with modern styling that equipped with QR Code and AR Code technology. Considered to be 25% local.

Fig. 5. Packaging Sample D

ANALYSIS AND DISCUSSION

The main data was obtained from the Focus Group Discussion, which was attended by 16 respondents with the following specifications: 9 men, 7 women. The age of 15-28 years are 5 people and 29-65 years totaling 11 people. Profile of respondents: 1 high school student, 2 tourism students, 2 employees, 1 packaging designer, 1 craft designer, 1 printing

businessman, 1 Communication Visual lecturer, 3 government employees representatives from DISPERINDAG Bandung, 4 representatives of UMKM products.

Supporting data is obtained from the distribution of online questionnaires with the respondent's specifications as follows: Aged 19-35 years, totaling 46 people; 36-66 years totaling 36 people. Respondent with revenue from 0-4.9 million per month is 48.8%; up to 10 million per month 28%; above 10 million per month 23.2%. Respondents reside in the city of Bandung.

Below is a Summary Triangulation Analysis of Micro Level related to technic, utility, material, icon, concept, shape and Macro Level related to Motivation related to factor of economic, cultural, social and ecology.

Table 1. Triangulation Analysis of Technic in Micro & Macro Level

Micro Level Triangulation Analysis: Technic
• Woven technique is unique, but if you want to produce it in large quantities it is not efficient in terms of price and time because it only relies on the ability of the craftsmen. • Unique packaging techniques for multi-packaging designs make products more eye-catching, but require extra time and cost, energy in the process of product manufacturing and packaging. • Printing technology on packaging design is familiar in Indonesia. • AR technology is considered to be still inefficient in terms of price, because it has to incur additional costs to buy applications. • Designers who can make designs with the addition of AR technology are still limited. • In Indonesia, AR technology in packaging design is only suitable to be applied in large cities, because it will give more selling value, of course, with content that must be in line with market share.
Macro Level Analysis
ECONOMY
Sample C, from an economic motivation is very effective because the technology is familiar at an affordable price.
CULTURE
A & B samples uses techniques that promote woven culture and local culture.
SOCIAL
A & B samples still involve craftsmen in their production techniques.
ECOLOGY
A & B samples that still uses natural woven techniques.

Table 2. Triangulation Analysis of Utility in Micro & Macro Level

Micro Level Triangulation Analysis:Utility
• The negative side of the packaging design, which is dominated by traditional materials, does not fulfill hygienic functions with less packaging durability, lack of informative function. Packaging tends to only function as a container. • On the positive side, the packaging design of this category is able to convey a stronger emotional function, so it is suitable for souvenirs. Has other function after the contents are used up. • Multi packaging can meet the emotional and functional aspects, giving a special attraction because it combines the impression of modern and ethnicity. • The printed packaging design fulfills the function as a container, hygienic, modern, informative, and can protect the product. • Designs that are too modern in terms of graphics and shape and do not show the characteristics of the area. It is feared that it is not feasible as a souvenir gift packaging design. • Motion technology and AR in packaging design can convey local culture, considered more suicidal because it can be accessed repeatedly. • Motion technology and AR in packaging design can convey more information than culture. • AR technology is not yet familiar in Indonesian society; AR in packaging design is considered tertiary function.
Macro Level Analysis
ECONOMY
• Sample C, which has an effective size can be more efficient in packaging and shipping products. • Equipped with AR technology that can be added to any information in digital form, Sample D not only functions as a packaging, but can be a means of advertising for products and tourism, thus giving more value.
CULTURE
A & B Sample are useful as an ambassador for local culture.
SOCIAL
Sample B in which there is an individual packaging, making it a means of social interaction when distributed as souvenirs.
ECOLOGY
A & B Sample has other functions after the contents are used up.

Table 3. Triangulation Analysis of Material in Micro & Macro Level

Micro Level Triangulation Analysis: Material
• Packaging design that uses traditional materials, namely bamboo has the advantage of environmentally friendly, abundant raw materials in West Java. • The use of traditional combined materials and new materials gives the impression of being attractive and modern, innovative without losing its natural characteristics. • Materials in printed packaging designs are easy to find on the market, look common and less innovative, so the graphic design and cutting need to be more innovative. • Comparison of selected paper gramatur must be adjusted to the size of the packaging. • Smart material with the addition of QR codes and a more modern, sophisticated, innovative AR that gives consumers new appeal and experience.
Macro Level Analysis
ECONOMY
Sample C uses common material, so it is found and the price is affordable.

CULTURE
A & B samples uses locally characterized materials.
SOCIAL
A & B samples involves the community to provide packaging raw materials. Especially Sample A.
ECOLOGY
Sample A uses bamboo material that is environmentally friendly and found in West Java.

Table 4. Triangulation Analysis of Icon in Micro & Macro Level

Micro Level Triangulation Analysis: Icon
• Ornamental and color variants that are traditional in packaging design are needed so that the packaged. product has more local identity. • The combination of traditional and modern images in packaging design becomes an attraction. • The use of icons in packaging design does not need to be too crowded, so the message is delivered to the maximum. • To convey a natural and local impression, AR content should use design icons that are not childish. • Information and graphics on print packaging designs can be developed indefinitely. • There needs to be aesthetic and functional unity about the ease of downloading QR codes and AR, so that local content can be seen by consumer. • It is necessary to add a gimmick icon to attract consumers to use AR applications, because this technology is not yet familiar to consumer.
Macro Level Analysis
ECONOMY
C & D samples use products that are adapted to current trends plus AR technology, so that it will be easier to enter the younger generation market.
CULTURE
A & B samples use locally characterized ornaments.
SOCIAL
C & D samples use products that are adapted to current trends, creating interaction especially for the younger generation in understanding local culture
ECOLOGY
A & B samples that use woven textures will extend the local culture cycle.

Table 5. Triangulation Analysis of Concept in Micro & Macro Level

Micro Level Triangulation Analysis: Concept
• The concept of packaging design with high traditional content is still considered exotic as a souvenir for foreign tourists, although it looks not modern. • The concept of packaging design that connects modern and traditional is needed in the modern era, because it is innovative as well as locally characterized and gives its own charm. • The design concept that only displays the modern side is considered to lack local values if it is applied to the souvenir packaging design that is intended for foreign tourists. • The existence of food objects in visual design, may only be suitable for a handful of people, not everyone understands the concept. • Packaging details can be further developed with more innovative concepts • AR content can be filled with various concepts so that it can include both traditional and modern aspects, even promotions.
Macro Level Analysis
ECONOMY
AR content in Sample D has a more solid concept, introducing tourism and Sundanese culture. So that it will increase the value of the product it packs.
CULTURE
Sample A & B concepts convey local culture.
SOCIAL
AR technology added to Sample D will lead to new forms of social interaction, especially for young people in understanding local culture.
ECOLOGY
Sample A & B that carries natural and traditional concepts will extend the local cultural cycle.

Table 6. Triangulation Analysis of Shape in Micro & Macro Level

Micro Level Triangulation Analysis: Shape
• Traditional packaging design needs to think of a more attractive form, not mainstream and more specific to the local culture, more ergonomic to carry, with a neater finishing. • Multi packaging needs to think about development to make it easier for the packaging design to be held at a safe point, opened and closed again, easy on the shelf and remotely delivered. • The form of stand up pouch zipper is considered more ergonomic than the box shape. • If the packaging design wants to remain square, try not to be too large, so it is also efficient for long distance shipping. • Need to develop packaging designs that are not too massive, so that the uniqueness of the form of food in it remains visible.
Macro Level Analysis
ECONOMY
Sample C in the form of stand up pouch zipper, the size that is not too large in Sample A will be more efficient for long distance shipping.
CULTURE
A & B samples are locally shaped, so the identity of the local culture is shared.
SOCIAL
The local community made the form of weaving in the A & B Sample, there was a social interaction.
ECOLOGY
The form of weaving in Sample A & B will extend the local cultural cycle

Below are examples of measurements based on the micro level summary derived from triangulation analysis of respondents' opinions (focus group discussions and questionnaires) and macro level analysis.

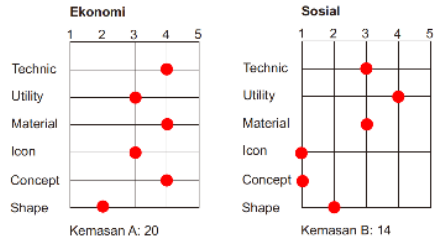

Figure 1.3 Sample of measurements

Table 7. Overall motivational values

Macro Level	A 100%	B 75%	C 50%	D 25%
Economy	20	17	25	22
Culture	28	29	10	18
Social	16	14	9	15
Ecology	21	22	7	18
Amount	**85**	**82**	**51**	**77**

CONCLUSION

Although it has a small role, motivation influences the appearance of the entire conception of the object being designed. The conclusion of the analysis that has been done is as follows: Packaging sample A and B are excellent in cultural, social and environmental motivations but weak in economic motivation. Packaging sample C and D are excellent in economic motivation but weak in ecological motivation. Packaging sample C is weak in social motivation. The highest value was achieved by packaging sample A (85), packaging sample B (82) was slightly adrift with packaging sample A, because the design price and production were more expensive. Packaging sample C has the lowest value (51), because it is only excellent in economic motivation. The value in the packaging sample D is 77. Physically, packaging sample D is similar to C but with the addition of Augmented Reality (AR) technology its potential can be utilized in social and cultural motivation. At present, in Indonesia the price of AR content creation services is still high, but with the right content to be efficient if the potential benefits of AR can be utilized.

There are two findings in this study. The first finding revealed that in Indonesia, packaging designs that use natural/traditional materials still excel in economic, cultural, social, ecological motivation to support sustainability. The second finding revealed that the innovation of cyber technology in the form of Augmented Reality that can be applied to non-natural material packaging designs could be an alternative to sustainability in the economic, cultural, social and even ecological aspects. Through this technology, various information content, as well as promotions, can be included. Packaging design will have additional functions to communicate local culture especially to future generations in a way that is appropriate in this digital era. This will add value to the packaging design and experience that is new to its customers, thus supporting sustainable tourism in Indonesia.

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