

Creative Design of Environmental Materials in Packaging from Economic Perspective

Dr. Haidy Youssef Abo Elgheat

Lecturer at the Faculty of Applied Arts - Benha University

haidy.youssef@fapa.bu.edu.eg

Introduction

The packing and packaging system is an essential factor in enabling the product to compete in international markets, considering that the appropriate packaging is the first impression that the consumer receives. Thus, packing and packaging are undoubtedly important and are a required necessity in any product commercial exchange; packaging systems have a world of creativity in the field of improving the features of the commonly used packaging materials, as it depends on the economic and environmental features of these materials.

Handling packing and packaging materials properly; as well as recycling them to preserve the environment; is one of the international civilized indicators that mainly aims to find or develop as much packaging materials; which are environmentally friendly and economically rewarding; as possible, also, attempting to create new methods and ways to recycle these materials as well. Packing and packaging have become a crucial tool in marketing the product and influence the consumers choices, in the food industry for instance, we find that that there are many methods on which the creation of the ideas for packing is based, such as the idea of healthy packing which impacts people's convictions, their health expectations, sensory experience and consumption, as the size and shape of packs and containers affect the size of consumption by modifying people's perception of the amount of food being served; and the amount of food they consume. (Pierre Chandon, 2012)

The problem of this research emerges from the need to set techniques to utilize the local environmental materials with an economic perspective that accomplishes distinctive aesthetic and design values.

The research aims to discover the economics of creative utilization of the environmental materials in packaging, it is based on **the hypothesis** which proclaims that attempting to use and utilize the environmental materials in packaging in a creative way; will induce creation of new packaging methods that obtain the environmental aspect and hold evident economical outputs.

First: the concept, importance and affecting factors on packaging

Packing and packaging is defined as an element of the marketing-mix whose functions in marketing fundamentally lie/hinge on serving the interests of the marketing process through the media of the manufacturer, intermediaries and the consumer. The role is fundamentally discussed in relation to fast moving convenience packaged goods or products. In accordance with the above definition efforts are directed toward an examination of the various means by which this element of the marketing-mix identifies itself with the interests of the three principal actors in the entire marketing process. (B.E.A. Oghojafor et al., 2012)

From a design perspective; packaging is the art, science and technique of locking and protecting the product to be distributed, stored, sold or used, the term "Packing and Packaging" refers to the process of designing, evaluating and manufacturing the casing. Packaging can be described

as a complete system to prepare the products to be transferred, stored, sold and used. (Mohamed Alaa Alnahlawy, 2010)

The significance of packaging comes from being a special field where demand and supply constantly change due to the development in the foodstuffs market, which shifts to new dimensions in order to adapt with the consumer, distribution, environmental and technological requirements.

The importance of packaging can be defined in the following points: (Price Water House Coopers, 2010)

- 1- Packaging has a great importance in marketing and promoting products, in addition to its functional role of product protection.
- 2- Preserve and protect the product this role is particularly important in food industry, as the development in packing and packaging have been a key motivation to help significantly reduce product loss rate which occurs within the supply chain.
- 3- Demonstrate the brand image the shape and design of packaging is a main tool for marketers in featuring the brand name of the product.
- 4- Convey Information this may include information on how to use the product or required information; e.g. ingredients list.
- 5- Provide suitability this covers an integrated group of aspects; including the consumer's convenience in using the product and the retailers' convenience in stocking and displaying the product.

There are many factors that affect the quality and aesthetics of packaging; the affecting factors on product packaging industry can be summarized as follows: (Richard Coles et al., 2003)

- Technological influences: resulting from the technological development in the fields of design and manufacture; and the innovation of new materials.
- Political and legal influences: resulting from the policies of each country and its commitment to international agreements.
- Socio-cultural influences: resulting from the education of the targeted public and their tendencies and tastes.
- Demographic influences: resulting from the educational and economic levels of the targeted public.
- Ecological influences: resulting from the approach towards environment and green products.
- Economic influences: resulting from the availability of economical raw materials and local design and manufacture technologies.

Second: creative design of packaging

The elements of creative design of packaging are the terms of the pattern language used by the designer; they are called the items of creative design or formation due to their flexible potentials to be formed into any shape and the ability to integrate, blend and unite with each other to create a complete form of the design.

The elements of creative design of packaging means all that can be observed in the packaging design; including trademark, images, writings ... etc., when each of these elements is clearly studied; they can be used in an appropriate way that expresses the identity of the production

company, presents it properly and portrays its aspects of grace. That is why when attempting to design a packaging; it is essential to consider each of the elements that form the design severally, so it can harmonize with other elements without any deviation, as all elements within the design must be consistent and coherent. Thus, all companies tend to distinguish their products or production lines from their competitors by utilizing the design elements, which includes: (Richard Coles et al., 2003)

1- Package Color.



Color effect on packaging creative design

2- Package shape and size.



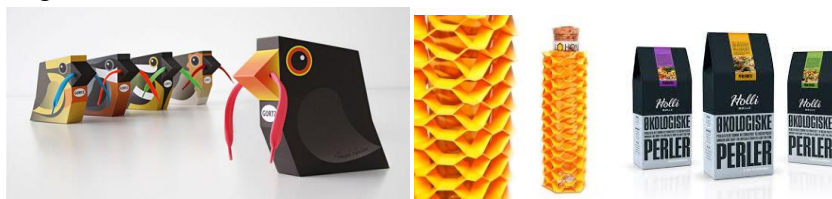
Package shape and size effect on package creative design

3- Package printing and wording.



Printing and wording effect on packaging creative design

4- Package design semantics.



Design semantics effect on packaging creative design

5- Package material types.



Material types effect on packaging creative design

6- Brand visibility in the package design.



Brand visibility effect on packaging creative design

The material used in the creative design of packaging demonstrates the attributes of the package form in correlation with what is inside it, thus, the form of packaging indicates the method by which the sensory elements; related with the packaging material itself; are formulated, the way that the elements affect each other and the way they are processed. Hence, a design unit is accomplished by adjusting the material and the idea, moreover, the form and material of the package is viewed as one whole structure that cannot be separated. The importance of the packaging form and material function comes from arranging the design elements in a way that can exhibit its sensory, expressive and aesthetic values, in addition to its primary function; which is to protect the product; and its secondary function; which is its marketing prospect.

Third aspect: ecological and economic aspects of packaging

It can be said that the crucial factor in the future of packing and packaging industry; is to determine the method used to dispose the wastes resultant from this industry; as in the USA alone, the amount of solid wastes resulted from purchasing daily needs form an estimation of 30% of total city wastes.

After issuing the ISO 14000 standards series; concerned with environmental management; all packages producers and users are committed to abide to these standards that determine package specifications of every product. Also, the product identification label must show a complete clarification of the method to be followed to dispose the package after using it in an eco-friendly way. Moreover, the ISO 14000 standards include the obligation that the products must have distinctive labels (eco labeling) in order to utilize the returned packages, either by recycling them, or to dispose them in proper scientific eco-friendly methods.

The standards set for foodstuffs packages include the following:

- 1- To be made of materials that can be recycled, re-used or are easy to dispose without causing any ecological damages.
- 2- To be made of materials compatible with health standards, that cause no harmful effect or contamination on the packaged substance or the package's users.
- 3- The package must be invulnerable to stocking and transferring conditions.
- 4- The package must have an identification card that includes: material name, type, trademark, ingredients, additions, gross and net weight, number, quality level, storage conditions, production season, packaging and expiration dates, country of origin, production area, marketing checkpoint, name and address of the producer.
- 5- The package must protect the substance inside of it.
- 6- The package must be clean and contains no odd materials.

- 7- The package label must include no indecent or manners/values disruptive writings or drawings.
- 8- Information must be written on the package with solid permanent and easy to read color, languages other than Arabic can be used.
- 9- Degrees must be distinguishable through the specific color of each degree.
- 10- The package must be void of fabricated appendages.
- 11- The package must be easy to clean.

Packing and packaging impact the cost of every economic activity along the production chain; it has a great influence on productivity; storage and transferring costs are directly connected with the packages size and thickness. Moreover, handling costs depends on unit weight; stock monitoring depends on the accuracy of codification systems. Also, customer service depends on the quality of packing which protects the products; and how easy to open and display the package. On the other hand; the ecological economic effect depends on the materials used in packaging and their production, recycling and disposal methods.

There are three functions correlated with economical packaging; protection, advantage and marketing communications; and there is a rising approach to contemplate packaging in regards to its functions and value as a part of an integrated system; responsible of reducing production costs and increase sales at the same time.

Protection: the first function is represented in preserving the product; as protection is the primarily function of packaging.

Advantage / productivity: the second function is defined as an added value; in case of economical packaging; that benefits the user. While productivity; in a simple way; is the ratio of actual production to actual inputs (productivity = number of packaging outputs/economic inputs).

Marketing communications: the third function of packaging is the most important, as economic information systems have become more thorough; electronic data exchange and monitoring have become an essential factor in the development of packaging industry, therefore; everyone is now obliged to provide accurate data about the state of the packaged product; in the right time; and for all practical purposes. (Diana Twede and Bruce Harte, 2003)

Fourthly: a practical study to utilize creative design of environmental materials in packaging from an economic prospect:

The practical study was based on the integration of three main aspects of the creative design of packaging; which are:

- **Environmental aspect:** utilization of local environmental materials;
- **Economical aspect:** utilization of materials and ideas that are economically inexpensive;
- **Creative aspect:** reliance on untraditional ideas; that are unused in the Egyptian society; in which exquiteness is based on the idea, assemblage and printing methods.

According to the above, three groups of suggested packaging have been designed for three Egyptian companies/enterprises, as follows:

4-1: First suggested model: Sunbulah Food Products



Various designs for the 1st suggested model

4-2: Second suggested model: National Development Organization



Various designs for the 2nd suggested model

4-3: Third suggested model: Chef Foods



Various designs for the 3rd suggested model

Research results:

1- When attempting to construct a packaging design; every element of it must be considered on its own, so it can blend with the other elements without any deviation, as all elements within the design must be consistent and coherent. Thus, all companies tend to distinguish their products or production lines from their competitors by utilizing the design elements.

- 2- Companies tend to distinguish and differentiate their products form by using environmental packaging that have an economic output; as creative design for packaging is correlated with these two aspects.
- 3- The creative process of packaging is accompanied with the consideration of the nature of the packaging material, whether it is glass, wood, paper or else; as the more knowledge about its features and formulating possibilities the designer obtains; the more creative ideas he produces.
- 4- The consideration of environmental materials and new techniques in packaging design and production will generate new uncommon visions for packaging, which can demonstrate creative aesthetic values that shall promote the artistic content of the packaging with major economic output.
- 5- The practical study was based on the integration of three main aspects of creative design of packaging; environmental aspect (using local environmental materials), economical aspect (using economically inexpensive materials and ideas) and the creative aspect (relying on unusual ideas that are not used in the Egyptian society), hence; the exquisiteness factor is based on the idea, assemblage and printing methods.

References:

- 1- Alnahlawy, Mohamed Alaa(2010) Athr Eltaghleef 3la Selok Elmostakhdem, Faculty of trade and economic, Damascus University.
- 2- Coles, Richard, McDowell, Derek, Kirwan, Mark (2003) Food packaging technology, Blackwell Publishing Ltd.
- 3- Chandon, Pierre (2012) How Package Design and Packaged-Based Marketing Claims Lead to Overeating. INSEAD Working Paper No. 2012/61/MKT. Available at SSRN: <https://ssrn.com/abstract=2083618>
- 4- Davis, G. & Song, J.H. (2006) Biodegradable packaging based on raw materials from crops and their impact on waste management - Industrial Crops and Products 23.
- 5- Gabr, Falah Saeed (2006) Elhefaz 3la Elbyayt; wa Manzomt elta3beah wa Eltaghleef El3rabia: wake3 wa mortaga, Conference of Ecological Considerations in Arab Food Industries: Current Situations and Future Approaches.
- 6- Mahrous, Hawass(2011) Elthadyat Elbyayt l wa so3pl mo3algteha, Algeria,.
- 7- Manalili, Nerlita M. (2011) Appropriate food packaging solutions for developing countries, International Congress Save Food! at Interpack , Dusseldorf, Germany
- 8- Oghojafor, B. E. A. , Ladipo, P. K., Olufayo, A. T. O. (2012) The Multiple Role of Packaging in the Entire Marketing Process (Manufacturer Perspective).
- 9- Price water house Coopers (2010) sustainable packaging: a threat or opportunity, Price water house Coopers LTD.
- 10- Twede, Diana and Harte, Bruce (2003) ALogistical Packaging for Food Marketing Systems, in Food Packaging Technology, Blackwell Publishing.