

Visual Identification of Local Heritage Food Packaging: A Case Study of the Development of Gabin Biscuit Packaging Design in Samarinda

Andi Farid Hidayanto^{1*}, Basyarah Hamat², Nik Shahman Nik Ahmad Ariff²

¹ Department of Design, Politeknik Negeri Samarinda, Samarinda, Indonesia

² Department of Science, Management and Design, Razak Faculty of Technology and Informatics, Universiti Teknologi Malaysia, 54100 Kuala Lumpur, Malaysia

*Corresponding Author: andifarid@polnes.ac.id

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Abstract: *Local Heritage food is a region special food that is different from those from other regions. Due to its uniqueness, the food can be a souvenir as proof that consumers have visited a certain place. In carrying it as souvenir, that traditional food needs packaging. As a souvenir, the packaging needs to have uniqueness that can differentiate it from other packaging and at the same time it can show its identity. One of the distinctions comes from the attributes of the packaging from the visual side, because the visual appearance is the first thing that can catch the costumer's attention and influence purchasing decisions. So, it needs to be analyzed to find what attributes are required to elevate the visual side. This is qualitative research. Preliminary data were obtained from a literature study on food packaging design which are analyzed for its attributes, the results were quantitative using the NVivo application. NVivo was used to illustrate the decision analysis results framework by coding the data according to the classification scheme. For attribute items, the ATUMICS guide (Artefact, Technique, Utility, Material, Icon, Concept and Shape) was used as a step to reconstruct the packaging. The result of this study is the arrangement of the visual attributes of traditional food packaging, which will be applied to develop the packaging design for the Samarinda gabin biscuit, to reconstruct the packaging which is suitable to current taste without losing its original identity.*

Keywords: Gabin cake, packaging attributes, traditional food, Samarinda food

1. Introduction

Food is the world's largest industry, and the packaged food market is getting larger and growing rapidly, the expected supply needed is more than US\$3 trillion by 2020 (Scarpi, Pizzi, & Pichierri, 2018).

The existence of traditional food is caused by people's needs, which are produced from generation to generation (Ciftci & Walker, 2017). Traditional food is one of cultural heritage of a region. The product may also be a key feature of the culture (Zecca & Rastorgueva, 2016). Each region has its own local traditional food. Gabin cake from Samarinda is one of it.

Gabin cake is a traditional food from Samarinda. The texture is like crackers or biscuit, but crumblier and more delicious. This is one of the factors that make it a signature dish (admin,

2022). The way to enjoy the cuisine is also unique, it is different from other regions. The customers should dip Gabin cake into tea, coffee, or milk before eating it. There are also some people who enjoy it by putting Gabing cakes on a plate, then pour tea, coffee, milk or green beans until they melt, then it can be enjoyed just like porridge.

The cake is called Gabin because it is one of most famous and popular biscuit brand in Samarinda. There are various kinds of Gabin now, and still Gabin cake is one of special souvenirs from Samarinda that you must bring home when you are traveling there (Alys, 2018).

From interviews with the owners, a long time ago, Gabin biscuits was actually form of ABK the acronym of Anak Buah Kapal (ship crew members) who often felt sick while they were sailing. At that time there was no hangover medicine or nausea reliever. Thus, the crews were given plain biscuits which turned out to be able to relieve nausea while sailing. These biscuits were easy to bite and odorless. Since then, these biscuits are popular with sailors, making them often called cabin biscuits. Gradually, the term cabin is often heard as gabin, so these biscuits are called Gabin biscuits. The name Gabin then, is used by the industries to address their biscuits, even though the biscuits are produced in other factories but still, they use the same name, cabin biscuits, to address those square, plain, odorless biscuits.

In its selling, Gabin cakes are packaged in 2 categories, namely the bulk version and the row version. In the bulk version, the cake is placed in a plastic bag, then the ends are tied so that they do not come off the plastic bag. Product information in the form of printed paper inside the packaging. The other packaging is in the form of boxes with Gabin arranged in a row for lesser amounts purchases.

From field observations, interviews with sellers and data collection, Gabin cake packaging in general has not changed from then to now. The packaging of Gabin cake still uses transparent plastic material which is folded following the shape of the cake formation. But some Gabin factories have already used transparent plastic with printed graphics on the side of the packaging, but some are still using printed paper that is inserted in the packaging. There are two packaging techniques, some of the industries use hot pressing machines to lock the package and some industries only fold the plastic and lock it with transparent tape. In general, this case also occurs in the other Samarinda traditional food packaging.

From the interviews with buyers and the government, the packaging needs to be developed to meet people's current taste, but it must keep its original identity.



Figure 1: Packaging of bulk type gabin biscuits



Figure 2: Gabin biscuit packaging in a row

Packaging design is a multidisciplinary process involving professionals from various fields (Maleki, Aghdaie, Shahin, & Ansari, 2019). Packaging design has become an important part of marketing, especially in the food industry (Scarpi et al., 2018). Food packaging is an important component of the food supply chain and an important element in the final preparation process in the food industry (Petkoska, Daniloski, D'Cunha, Naumovski, & Broach, 2021).

The history and development of packaging were firstly emerged from the primary need to protect the contents of products. Starting with leaves, hollow tree trunks, straw, and bark, the packaging of products evolved, became more sophisticated and improved to meet the specific needs of product handling. Packaging become one of most important part of a product-based company's business. In traditional terms, conventional packaging is as means of containment, protection and preservation. At this time, the function of packaging has developed from the perspective of passive packaging, so packaging is developing towards the current phenomenon (Lydekaityte & Tambo, 2020). At first, the function of packaging was to protect its contents. Then it was developed into various functions, as the dissemination of information or promotion as an additional function besides the main information, as for providing details of product quality to consumers. Therefore, traditional food packaging could not meet the consumer needs to find information on what was inside the product. Smart packaging can tell what is required (Yu et al., 2021). There is an intelligent system that presents Augmented Reality, in the form of a QRIS when it is scanned, it will display visual information. Also, the provision of barcodes that facilitate transactions in the markets with modern payment devices.

Practitioners and academics agree that packaging is a communication tool that influences marketing success (Wagner & Charinsarn, 2020). One of the important roles of packaging is to communicate to consumers (Wagner & Charinsarn, 2020). Packaging is the first product attribute that can be seen by users, including in the storefront (Scarpi et al., 2018) (McIntyre, 2019). Buyers usually spend a short time when the product is displayed in the window (Wagner & Charinsarn, 2020). So, good packaging must be able to meet consumers' satisfaction, because the design of packaging shouldn't only considers the aesthetic aspects, but packaging must be able to fulfill the main purpose of creating packaging (Riani & Widyamurti, 2018).

Graphic displays have long been used to portray the symbolic relationship between culture and food. In popular food media, images contextualize various textures, which organize, represent and influence cultural interactions with food and media. The depiction of traditional food is also a space to explore how strategies are used to invite consumer involvement (Taylor & Keating, 2018). The visual appearance of the packaging which contains local culture in its present form can compared to a combination of traditional and modern fashion. Both of them must be balanced (Lin & Liu, 2020).

According to Silayoi & Speece (2007), packaging design elements can be broadly divided into two: 1. Visual design elements, the elements which are directly visible. 2. Verbal design elements, the elements that are more informative. In this study, the researcher examined the elements of visual design, those are elements that are directly visible (Andelina, 2019).

In this case, the researcher uses visual elements of traditional food packaging obtained from data processing from systematic literature review of selected journals, then they are coded to obtain the coding for the visual elements. Then the results are compared with the ATUMICS method to get the novelty.

2. Materials and Methods

This research is a qualitative type. The first step was to collect journals about packaging. The selection of journals was based on title, abstract, and keywords. These selected journals were then reselected to deeply read the full journals. Those journals focused on food packaging, especially on traditional food packaging. There were twenty-six journals obtained which were suitable to the researcher study. The journals were then analyzed with a systematic literature review, compared to obtain the gaps regarding the attributes of traditional food packaging. The results of this comparison were quantitative using the NVivo application to obtain coding for the visual elements of traditional food packaging, and to avoid objectivity. Because traditional food is a cultural product, it is studied and compared with ATUMIC method which is usually used to reconstruct traditional product into modern one by concerning the originality as a control key to get its novelty.

The visual elements of the packaging from the results of this study were then compiled and applied to analyze the research object, the Samarinda Gabin cake packaging. The object of the case study was analyzed whether the visual elements of the packaging fulfilled the proper packaging attributes requirements, so it could be decided whether the design was necessarily developed or not.

3. Results and Discussions

To compile the visual elements of traditional food packaging that have novelty, the researcher observed the previous researcher’s studies on the visual elements of packaging through their scientific publications. According to the articles discussed the elements of this packaging, when they were collected in general, the spreading visual elements were similar. The review of the visual elements of packaging continued to evolve and no agreement was reached. The visual attributes of the packaging were then analyzed, compared and studied to study the gaps to get its novelty.

The visual elements of the packaging above were then arranged for keywords to be coded. This coding was an important link between data collection and the explanation of its meaning. Qualitatively, these coding was made to represent attributes in interpreting the meaning of each data for the purpose of pattern detection, categorization, theory formation and other analytical processes (Bandur, 2019).

From the results of the conducted literature review, the visual elements of the food packaging were coded, and a word cloud was obtained as shown in Figure 3.



Figure 3: Word cloud packaging visual elements

The word cloud above was then processed for the key words about the visual elements of the packaging to get an overview of the elements as shown in Figure 4.

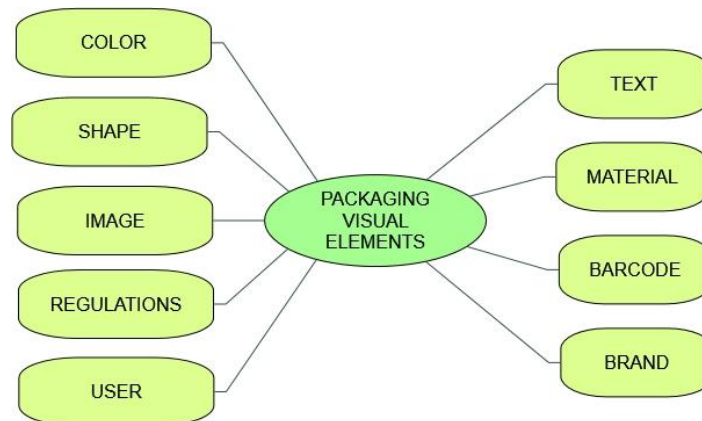


Figure 4: Resume packaging visual elements from the literature review

The visual elements of packaging in Figure 4 were then compared with the ATUMICS method, because this method is commonly used to reconstruct traditional products into modern products without losing their identity. The ATUMICS element is a composition of Artifact, Technique, Utility, Material, Icon, Concept and Shape (Nugraha, 2012). To focus in analyzing keywords, the elements were compiled in the form of coding and was processed in the application to get data categories based on the concepts appeared in the data that run continuously, until it stopped because there were no new concepts contained in the data. From the data processing and comparison, the composition of the visual elements of traditional food packaging was obtained as shown in Figure 5

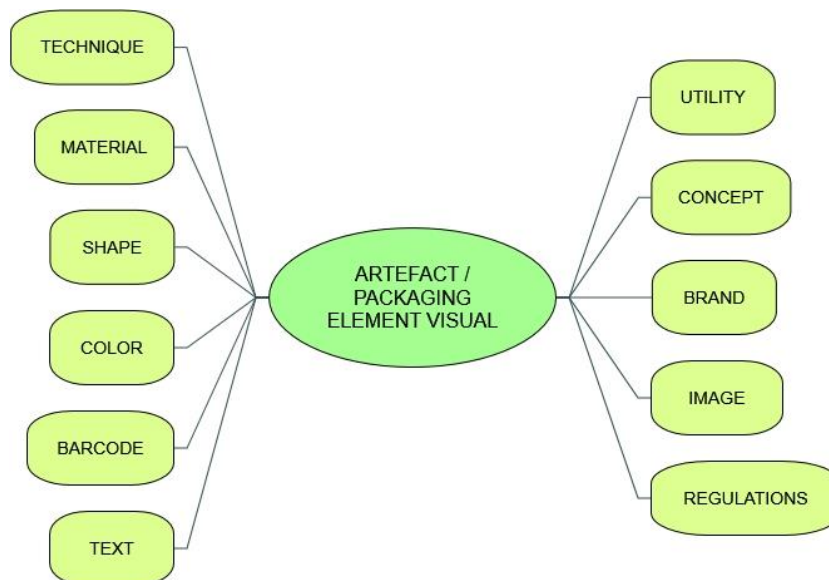


Figure 5: The composition of the visual elements of the packaging

The visual elements in Figure 5 have more detailed sub-elements, it explains each attribute of the packaging visual elements. The development of these sub-elements can be seen in Figure 6. However, in analyzing the product, elements in Figure 5 can be used, because the sub-element functions are to explain the visual elements in more detail.

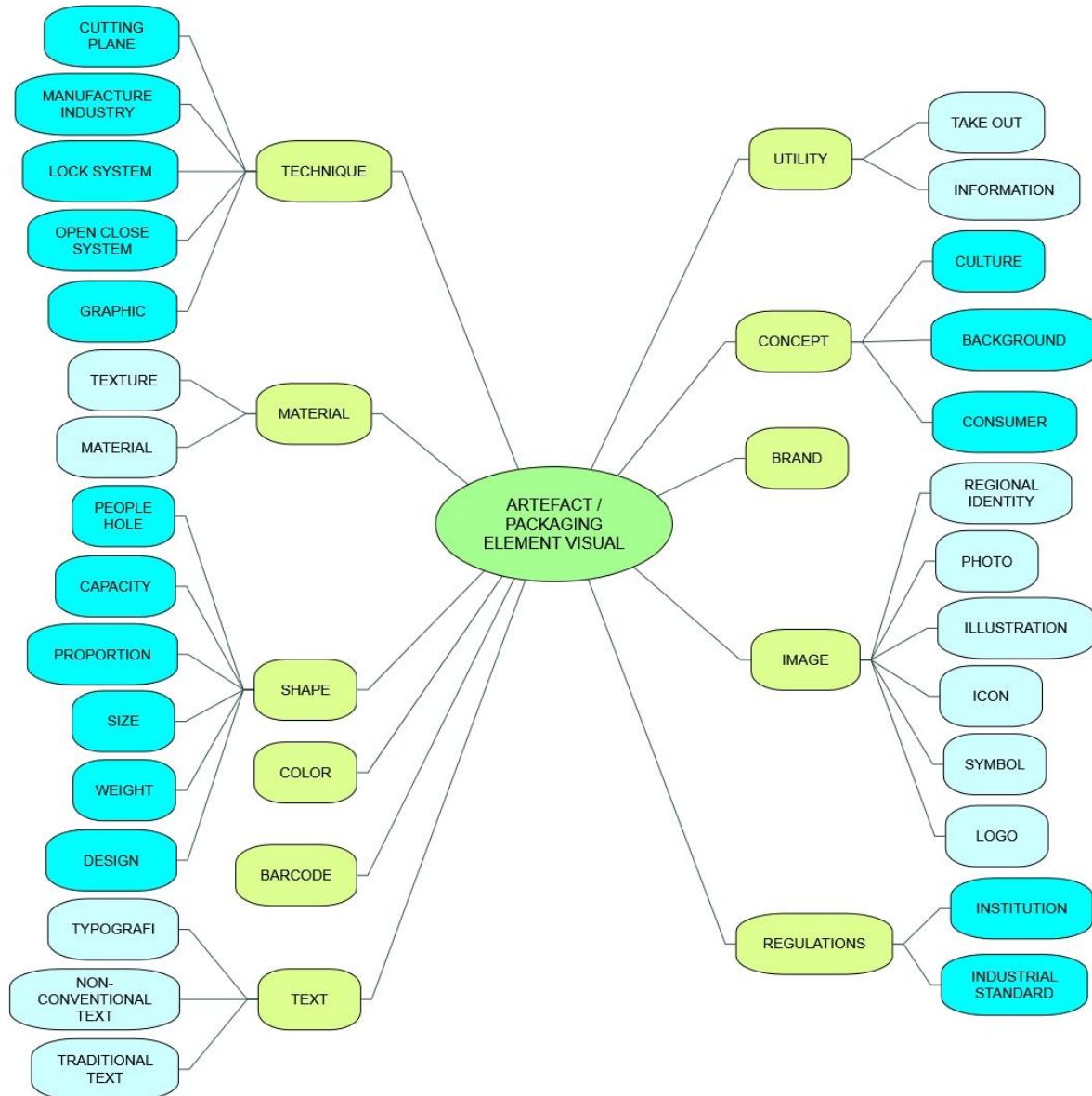


Figure 6: Visual sub elements of traditional food packaging

A brief explanation of the visual elements of traditional food packaging is as follows:

- i. **Artefact**
 Artifacts are objects of the research. In this study, traditional food packaging which will be analyzed from visual standpoint.
- ii. **Technique**
 Technique is the process of manufacturing and assembling packaging. The process includes cutting pattern, locking systems, opening and closing systems, graphic settings, and the size of the factory. The consideration of whether the packaging is made for large industries or small industries.
- iii. **Utility**
 Utility is the use of packaging. Food packaging is as the main function and information media is as an additional function of the packaging.
- iv. **Material**
 Material is the material used to make packaging. Pay attention to the type of material and surface texture.

- v. Image
The image is the main visual in the packaging. The image composes the identity that will be displayed. It can be in the form of photos, illustrations, icons, symbols, or logos.
- vi. Concept
Concept is the theme in the formation of this visual packaging. Starting from determining the background of its formation which is harmonized to the culture that will be displayed and determining the users' segment and target consumers.
- vii. Shape
Shape is a packaging shape design. Shape is applied in packaging design. The design accommodates the capacity, weight, size and conditions inside.
- viii. Barcode
Barcode is the information data in the form of a collection of optical data in the form of simple black and white vertical lines of varying thickness for easy recognition and identification. Besides in form of lines, there are also barcodes consisting of numbers or letters.
- ix. Text
Text is information in written form. As a design element, the text follows typographical conventions, non-conventional text and traditional text to make it attractive.
- x. Brand
Brand is a product brand. The brand is in the form of a main name and a derivative name to make it easily recognized and as an identification.
- xi. Regulation
Regulations are the rules that must be obeyed in the packaging. Rules from industry and from the government. Some rules are displayed, and some are not, because it is the process behind the making of packaging, and it is not for public consumption.
- xii. Color
Color is the first object that is seen by consumers. So, the packaging design must pay attention to this color factor.

The predetermined visual elements of the packaging were then used to analyze the object research as a case study, the gabin cake packaging. Gabin cakes were taken from industries in Samarinda with brands Lido and Ria. The two packaging from the two factories had similar characteristics, the only difference was in the graphics, but the other elements were the same.



Figure 7: Gabin Lido biscuits



Figure 8: Gabin Ria's biscuits

Table 1: Analysis of visual elements of food packaging

No	Visual elements	Lido	Ria
1	Technique	The packaging is made of transparent plastic which is folded according to the composition of the contents. It locks by hot pressing, opens by tearing it, so it is a single use packaging. Product information in the form of graphics printed on the packaging. Packaging is used in the medium industry, because it needs a screen-printing machine for the graphics. For bulk packaging, the lock uses rubber band tied at the upper end of the plastic bag.	Single-use packaging, in the form of transparent plastic that is folded to form according to the composition of the contents. Then it is taped to lock the contents. Product information in the form of paper is inserted in plastic packaging. Packaging can be made in a small industry, because it only requires folding techniques. For bulk packaging, the packaging is locked with a rubber band tied at the end.
2	Material	Material from transparent plastic, with a smooth texture.	Material from transparent plastic, with a smooth texture.
3	Shape	The shape of the packaging is a box, the biscuits are lined up following the shape of the box. For bulk version, the packaging is in a form of plastic bags. Gabin cakes are placed in the bag without arrangement, then tied with a rubber band at one end. The condition of the contents can be known because the material is transparent plastic.	The shape of the packaging is a box, Gabin cakes are arranged in a row following the shape of the box. For bulk version, the packaging is plastic bags. The contents are placed without being arranged. The plastic bags are tied with a rubber band at one end. The condition of the contents can be seen clearly because the material is transparent plastic.
4	Color	The packaging is transparent with no color. With graphics of the composition of the primary colors, red, white, and blue	The packaging is transparent with no color. The graphics are obtained from white printing paper inserted in red and yellow colors.
5	Barcode	The packaging is equipped with a barcode	The packaging is not equipped with a barcode
6	Text	The text displays brand information, type of cake, cake taste, composition of ingredients, certification, and company address. The text design contains simple typographical conventions	The text displays brand information, type of cake, composition of ingredients, and company address. The text design has not contained typographical methods yet.
7	Utility	Primary type packaging. The main function is wrapping, protecting the contents, and displaying product information, as necessary. The packaging has not displayed regional identity yet. Information about origin of the product is known through the text on the packaging	Primary type packaging. The main function is to wrap and protect the contents, with product information, as necessary. The packaging has not display regional identity yet. Information on the origin of the product is known through the text on the packaging
8	Concept	Snacks, featuring a variety of tastes.	Snack
9	Brand	Displays the Company's brand in the form of logos and writing	Displays the Company's brand in the form of logos and writing
10	Image	The images displayed are in the form of certification logos, company logos, and illustrations of the company's environment when it was first established	The image displayed is the company logo
11	Regulations	Display expiration time, halal certification, health certification and the composition of the ingredients	Display the expiration time and composition of the ingredients

From table 1 above, it can be concluded that the Samarinda Gabin cake is a snack, which is wrapped in a single-use primary packaging, made of transparent plastic which its content can be seen clearly from the outside. The lock system is disposable, to open the package is by damaging it. The informational facts can be seen through writing form, including brand,

address, composition, standardization, and taste. For barcode, the block model graphic color is used, according to the capabilities of the screen-printing system used. Graphics have not displayed images or photos yet, it is in the form of a silhouette as the Company logo.

The analysis of the visual elements of the packaging above was combined with the results of the questionnaire to respondents to obtain specific data regarding what visual elements need to be developed which can display local identity when looking at product packaging. Then, fifty-six respondents answered distributed questionnaires. From the results of data collection of respondents, the researchers obtained the following results. Forty-seven percent of respondents stated that the packaging design needed to be developed. The design elements that need to be developed in the packaging are shown in Figure 10.

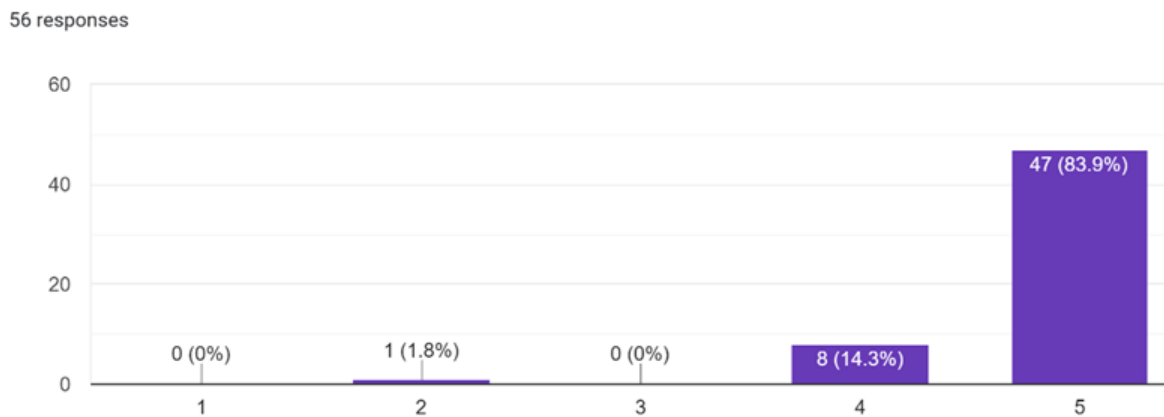


Figure 9: Gabin cake packaging design needs to be developed.

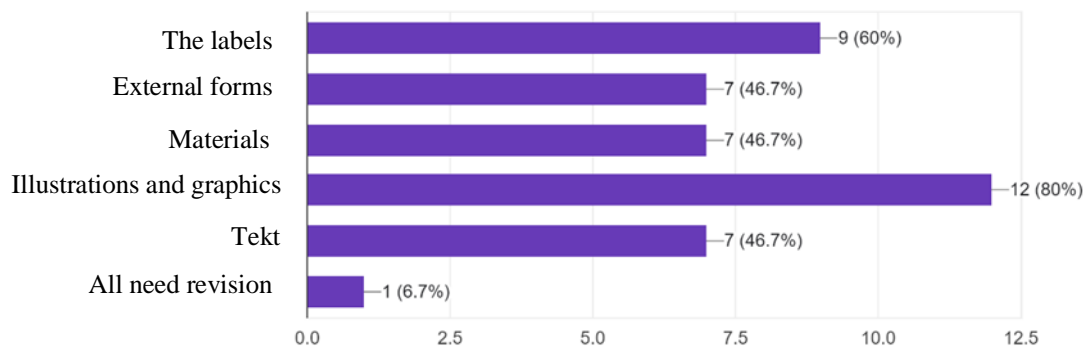


Figure 10: Gabin cake packaging elements that need to be designed

According to the industrial side, they did not develop the packaging because the customers already recognize the old packaging, so that when it was developed, consumers were afraid they would not recognize it. According to the statement of the city government, the packaging was not developed because it required a large amount of money to design it, which would add to the production costs of business actors. Then business actors and government agencies needed to have discussions to solve the solution. Because it is related to business development and government programs to introduce their region through tourism programs.

4. Conclusion

The result of this research was the arrangement of visual elements of local heritage food packaging. To evaluate it, the visual elements of the packaging were applied by identifying the

Samarinda gabin cake packaging, the results of which were used to develop the packaging design, reconstructed to meet the current taste without losing its original identity.

The visual elements of the research packaging can be used by the city government or interested parties to analyze their product packaging as a reference for what elements need to be developed in the design.

It is hoped that the next stage of research can be continued by building a framework for designing heritage-traditional food packaging, which can be used as a guide for designing heritage-traditional food packaging as a regional identity.

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References

- Admin. (2022). Roti Gabin Lido Samarinda: Konsistensi dan Originalitas Sejak 1969. Retrieved from <https://www.nomapatu.com/post/roti-gabin-lido-samarinda-konsistensi-dan-originalitas-sejak-1969>
- Alys. (2018). Bikin Rindu! Yuk Bikin Kue Gabin Tape, Cemilan Sederhana di Masa Kecil. Retrieved from [Bikin Rindu! Yuk Bikin Kue Gabin Tape, Cemilan Sederhana di Masa Kecil.html](#)
- Andelina, I. R. (2019). Analisis Elemen Visual Pada Desain Kemasan Chitato Rasa Sapi Panggang. *Titik Imaji*, 2(1), 33-. doi:<http://dx.doi.org/10.30813/v2i1.1526>
- Bandur, A. (2019). *Penelitian Kualitatif, Studi Multi-disiplin Keilmuan dengan NVivo 12 Plus*. Jakarta: Mitra Wacana Media
- Ciftci, H. G., & Walker, S. (2017). Design for Grassroots Production in Eastern Turkey through the Revival of Traditional Handicrafts. *The Design Journal*, 20, 14. doi:10.1080/14606925.2017.1352808
- Lin, X., & Liu, W. (2020). The application of Taiji thought in packaging design. *E3S Web of Conferences*, 179, 4. doi:10.1051/e3sconf/202017902010
- Lydekaityte, J., & Tambo, T. (2020). Smart packaging: definitions, models and packaging as an intermediary between digital and physical product management. *The International Review of Retail, Distribution and Consumer Research*, 30(4), 377-410. doi:10.1080/09593969.2020.1724555
- Maleki, S., Aghdaie, S. F. A., Shahin, A., & Ansari, A. (2019). Investigating the relationship among the Kanseibased design of chocolate packaging, consumer perception, and willingness to buy. *Journal of Marketing Communications*, 26(8), 20. doi:10.1080/13527266.2019.1590855
- McIntyre, P. M. (2019). Gender by Design: Performativity and Consumer Packaging. *Design and Culture*, 10(3), 337-358. doi:10.1080/17547075.2018.1516437
- Nugraha, A. (2012). *Transforming Traditional: A Method for Maintaining Tradition in a Craft and Design Context* Helsinki: Aalto University.
- Petkoska, A. T., Daniloski, D., D'Cunha, N. M., Naumovski, N., & Broach, A. T. (2021). Edible packaging: Sustainable solutions and novel trends in food packaging. *Food Res Int*, 140, 109981. doi:10.1016/j.foodres.2020.109981
- Riani, A. L., & Widiamurti, N. (2018). *Panduan Pendirian Usaha Pembuatan Desain Kemasan*. Solo: Badan Ekonomi Kreatif dan Universitas Sebelas Maret.

- Scarpi, D., Pizzi, G., & Pichierri, M. (2018). Eating With Your Eyes: How Packaging Visual Cues Affect Content Estimation and Self-control in Virtue and Vice Food. *Journal of International Food & Agribusiness Marketing*, 31(2), 107-127. doi:10.1080/08974438.2018.1482586
- Taylor, N., & Keating, M. (2018). Contemporary food imagery: food porn and other visual trends. *Communication Research and Practice*, 4(3), 307-323. doi:10.1080/22041451.2018.1482190
- Wagner, U., & Charinsarn, A. R. (2020). What Language Should Be Displayed on Product Packaging? How Unconventional Lettering Influences Packaging and Product Evaluation. *Journal of International Consumer Marketing*, 33(1), 1-18. doi:10.1080/08961530.2020.1741483
- Yu, Y., Zheng, J., Li, J., Lu, L., Yan, J., Zhang, L., & Wang, L. (2021). Applications of two-dimensional materials in food packaging. *Trends in Food Science & Technology*, 110, 443-457. doi:10.1016/j.tifs.2021.02.021
- Zecca, F., & Rastorgueva, N. (2016). Trends and Perspectives of the Information Asymmetry Between Consumers and Italian Traditional Food Producers *Recent Patents on Food, Nutrition & Agriculture*, 8, 16.