

Designing a Board Game as a Medium for Introduction to Indonesian Spices for Generation Z

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Abstract. As a cultural heritage that is still frequently used until now, spices play an important role in Indonesian people's kitchen affairs. However, many of Generation Z are less familiar with Indonesian spices commonly used in cooking. The cause of the lack of knowledge is that they rarely see and use it directly during their activities. On the other hand, they have also made things easier with instant spices or ready-made food sold by restaurants or cafes. Therefore, this design aims to introduce Indonesian spices interactively and encourage the active involvement of Generation Z. This design used qualitative research method by collecting data through interviews, observations, questionnaires, and literature studies. The data analysis methods used are the Why Test, 4P, and SWOT. The result of this design is a board game as a medium for Generation Z to learn about 20 types of spices cultivated in Indonesia.

Keywords: Spices, Generation Z, Educational Media, Board Game

1 Introduction

According to data from the Negeri Rempah Foundation, more than half of the total spice species in the world are in Southeast Asia, of which Indonesia is dominant [1]. Based on data obtained by the Food and Agricultural Organization (FAO) in 2020, Indonesia is also one of the largest spice-producing countries in the world [2]. These facts are proof that Indonesia is indeed a country rich in spices and is known as the Mother of Spices. Spices are parts of plants such as roots, rhizomes, seeds, fruit, flowers, and leaves commonly used to provide taste, color, and aroma to various Indonesian dishes [3]. Each spice has a different shape, color, smell, taste, and processing method. There are three categories of spices, namely fresh spices, dried spices, and aromatic spices. Fresh spices include shallot, garlic, candlenut, galangal, and ginger, while dry spices include black pepper, white pepper, coriander, cumin, cinnamon, star anise, and cardamom. Aromatic spices include lemongrass, lime leaves, bay leaves, and turmeric leaves. The most dominant use of spices is in the culinary industry. However, spices have other benefits in the beauty industry and traditional medicine.

Based on the history that occurred hundreds of years ago, Indonesian spices were sought after by various countries in the world because of their benefits. Not only as a kitchen spice, spices were often used as ingredients for perfume, meat preservatives, corpse preservation, and

medicines for deadly diseases. These facts made Indonesian spices a 'luxury' asset in its time. The fact that Indonesian spices were once a matter of pride has become an irony in modern times. The influx of foreign dishes and spices into Indonesia could threaten the existence of local spices in the culinary industry today. This phenomenon is the impact of globalization and advances in communication technology that make it easier to access cultures from other countries. According to Prof. Dr. Ir. Murdijati Gardjito, spices and local cuisine seem increasingly neglected in their land. In fact, as the world's largest gastronomic kitchen, local spices actually have great potential to be developed [4].

A culinary preference survey from GoodStats shows that 71.4% of young people actually like to eat local food [5]. However, survey results from Populix show that as many as 61% of Generation Z bought food offline from restaurants or cafes (takeaway), 55% bought food via online services, and 47% ate food that is available at home [6]. This survey proves that the younger generation does not spend much time in the kitchen cooking their food. The existence of instant spices that are easy to find in the nearest stall, minimarket, or supermarket also makes it easier for them to cook without having to bother preparing the natural spices needed. These conditions result in the younger generation rarely seeing and using natural herbs and spices that are part of their cultural wisdom.

The young generation's low enthusiasm for getting to know and making further use of Indonesian spices is due to their busy activities and the mindset that getting to know herbs and spices is useless nowadays. So far, the medium that contains insight into Indonesian spices still does not encourage the younger generation to want to take action. Delivered that is less related to their environment also makes spices less able to attract the hearts of Generation Z. On the other hand, current media developments show the young generation's desires and needs for unique, creative, and innovative media.

Based on this, there is a need for innovative educational media that can encourage the younger generation to learn more about Indonesian spices. According to the Lecturer at the Bandung Institute of Technology, Aria Bayu Pangestu, and the Laboratory of Educational Games team at the School of Business Management, Bandung Institute of Technology, the interactive educational media that best suits the character of today's young generation are games [7]. This opinion supports the current reality that the younger generation is at the phase where they play frequently. They also like a medium that entertains and can strengthen their social relationships with others. Board games that apply blended learning and gamification strategies are suitable media because this type of game provides a learning experience while playing directly that is more memorable.

Therefore, the result of this design is a board game as an interactive educational medium that will introduce 20 types of spices in Indonesia. The spices that are the main content of the board game are spices that are cultivated in Indonesia and commonly used as culinary spices in the country. This media design will focus on board components supported by direct interaction with miniature spice replicas. This media aims to help Generation Z become more familiar with Indonesian spices in the scope of typical Indonesian culinary delights.

2 Research Methods

The type of research used is qualitative, a method that emphasizes descriptive explanations to understand the phenomena experienced by the research subjects as a whole [8]. The data

needed in this design are primary data and secondary data. Primary data are the original data obtained from interviews, observations, and questionnaires. Secondary data refers to data obtained from existing writings by conducting literature studies from e-books, physical books, journals, articles, social media, and internet sites.

For data collection techniques, there were interviews with an Indonesian culinary expert, William Wongso, and a board game designer, Adhicipta R. Wirawan. On the other hand, the resource person and the subject of this research is Generation Z in the age range of 15-24 years and is used to or has a hobby of cooking or culinary arts. Interviews with them discussed their cooking habits, obstacles to using spices, and their curiosity about Indonesian spices in the culinary field. Researchers also interviewed one of the game masters from Tabletoys Boardgames Library, Café, and Store in Surabaya regarding Generation Z's behavior towards board games. The observation technique was carried out by directly examining the characteristics of the spices selected and observing the target audience's behavior towards the design object. The questionnaires distributed to them contained questions about the target's daily lives and a short quiz to find out the extent of their knowledge of Indonesian spices. Literature studies refer to information about the spices and a board game design method.

For data analysis, the methods used are Why Test, 4P, and SWOT. The Why Test method aims to gain insight from the target audience as a reference for designing a board game to suit the needs of Generation Z. In addition, the 4P method will analyze product, price, place, and promotion aspects to get the right board game design strategy. Finally, the SWOT method aims to identify the strengths, weaknesses, opportunities, and threats related to board game design.

3 Result and Discussion

3.1 20 Types of Indonesian Spices

The characteristic of Indonesian culinary taste comes from the spices used. With vibrant, complex, and diverse characteristics, Indonesian food is famous for its mouth-watering taste [9]. Of the hundreds of spices available, there are 20 types of spices commonly used in Indonesian dishes. The 20 types of spices used are white pepper, nutmeg, candlenut, cardamom, coriander, black nut, turmeric, ginger, galangal, aromatic ginger, Indonesian cinnamon, lemongrass, Indonesian bay leaf, kaffir lime leaf, clove, torch ginger, shallot, garlic, red bird's eye chili, and tamarind.

Table 1. 20 Types of Indonesian Spices

Name	Binomial Name	Local Names	Characteristics	Processing Method(s)	Food Example(s)
White pepper	<i>Piper nigrum</i> L.	Lada putih, merica, pedes bodas, sahang	Pale white, dense texture, round granules with a wrinkled seed surface	Grind, mash	Various soups, fried foods
Nutmeg	<i>Myristica fragrans</i> Houtt	Pala	Shiny brown, round to oval in shape and wrapped in red mace	Pound, grate, grind	Sop konro, sop buntut, rendang
Candlenut	<i>Aleurites moluccana</i>	Kemiri, muncang,	Brownish, round or slightly flattened, hard-skinned, rough-shelled	Roast, mash	Sayur asem,

		hambiri, kereh			rendang, opor ayam
Cardamom	<i>Amomum Compactum Soland. ex Maton</i>	Kapulaga, palogo, kapol, kapolaha, palagha	Yellowish white, elongated oval shape, the seeds are small brown or black	Mash	Soto Padang, sop konro
Coriander	<i>Coriandrum sativum L.</i>	Ketumbar, tumbar, katuncar, katombhar	Brownish yellow, small round or tends to be oval	Roast, mash	Nasi kebuli, gudeg, soto Betawi
Black nut	<i>Pangium edule Reinw.</i>	Keluak, kluwek, kepayang, picung	The seed coat has a hard brownish-gray shell, while the seed flesh is reddish brown or blackish and has a flat oval shape	Brew in hot water	Rawon, pindang sapi Kudus
Turmeric	<i>Curcuma domestica Val.</i>	Kunyit, kunir, kunyir, koneng, konyet	Brownish on the skin and dark yellow or orange- yellow on the flesh, shaped like a curved cylinder	Mash, blend	Nasi kuning, kare ayam, soto ayam, sate lilit
Ginger	<i>Zingiber officinale Roscoe</i>	Jahe, jae, halia, jahi, bahing, jhai, melito	Yellowish white, large in size, and shaped like fingers with bulging segments	Cut, slice, mash, bruise	Ayam woku, pepes ikan, pallu basa
Galangal	<i>Alpinia galanga</i>	Lengkuas, laos, kelawas, laja, lahwas	Brownish on the skin, white on the flesh, thick, hard, and cylindrical	Slice, grate, chop, mash	Ayam goreng lengkuas, sayur lodeh
Aromatic ginger, sand ginger	<i>Kaempferia galangal L.</i>	Kencur, cikur, ceku, cekor, tekur, kencor	Brown skin and yellowish white flesh, dense texture, smaller and rounder than ginger and turmeric	Pound, grate, grind	Seblak, karedok
Indonesian cinnamon	<i>Cinnamomum burmanii</i>	Kayu manis, kanginggu, kiamis	Brownish and shaped like small rolls	Use whole, grate, mash, grind	Tengkleng, tongseng sapi
Lemongrass	<i>Cymbopogon citratus DC.</i>	Serai, sereh, threue, sare	Greenish white, long, and bulging at the base of the stem	Slice, mash, bruise	Ayam taliwang, ayam pop
Indonesian bay leaf	<i>Syzygium polyanthum (L) Wight Walp.</i>	Daun salam, gowok, manting	Dark green to light green, oval to elliptical, tip and base tapered, spine pinnate	Use whole, grind	Ayam betutu, semur daging
Kaffir lime leaf	<i>Citrus hystrix DC.</i>	Daun jeruk purut	Dark green, figure eight shaped, serrated edges, tapered tip	Use whole, slice	Gado-gado, pindang sapi Kudus
Clove	<i>Syzygium aromaticum (L) Merrill & Perry.</i>	Cengkeh, cangkih, cengke	Blackish brown, short- stemmed, and has four petals with a small ball at the ends	Use whole, bruise, mash	Ayam betutu, tengkleng

Torch ginger, red ginger lily	<i>Etilingera elatior</i>	Kecombrang, combrang, honje	Pink and shaped like a bud that tapers upwards	Cut, slice	Arsik ikan mas
Shallot	<i>Allium cepa</i> L. var. <i>aggregatum</i>	Bawang merah, brambang abang	Purplish red, small, oval-shaped	Slice, chop, bruise, mash, fry	Bawang goreng, sate ayam
Garlic	<i>Allium sativum</i> L.	Bawang putih, bhabang pote, bawang bodas	Yellowish white, almost round and clustered, consisting of several cloves wrapped in a membrane	Slice, chop, bruise, fry, mash, grill	Ayam woku, mie celor
Red bird's eye chili	<i>Capsicum frutescens</i> L.	Cabai rawit merah, lombok japlak, cengek	Red to orange, small, elongated with a pointed or conical tip	Slice, mash	Sambal, asem-asem daging
Tamarind	<i>Tamarindus indica</i> L.	Asam jawa, asem, asang jawa, accem	The flesh is brownish in the form of a dense paste	Dissolve in warm water	Tahu gejrot, pempek

3.2 Opinions from Indonesian Culinary Experts About Spices

In October 2023, researchers interviewed an Indonesian culinary expert, Mr. William Wirjaatmadja Wongso. According to him, how important it is to study spices for the younger generation depends on what profession they want to pursue. If they want to pursue a job like a chef, it would be better if young people learn to use spices in whole form or from scratch. Meanwhile, for jobs outside of that, young people can start learning from ready-made seasoning before exploring whole spices. The standard seasonings are basic Javanese seasonings, such as red base, white base, and yellow base seasoning. Natural herbs and spices have the advantage that their aroma and taste are sharper than instant and ready-to-use ones. The amount of spices used in recipes from each region has different proportions. As the most famous spice-producing region, Maluku residents rarely use herbs and spices in its regional cuisine. Not only that, the various existing spice processing techniques also provide different effects in cooking.

3.3 Elements, Types, and a Method of Designing Board Games

Formal and dramatic elements are two elements that are the basis for making board games. Formal elements are mandatory elements that must be present to create a complete game system. Formal elements include players, objectives, procedures, rules, resources, conflict, boundaries, and outcomes. Meanwhile, dramatic elements are non-obligatory elements that can help create a more emotional and meaningful playing experience. Dramatic elements include challenge, play, premise, and characters [10]. Besides that, there are several types of board games, including strategy games, family games, party games, abstract games, thematic games, and children's games [11].

One method for designing board games is the MDA (Mechanics-Dynamics-Aesthetics) Framework method. Mechanics are concrete components that allow players to carry out actions, including genre, objectives, and levels. Dynamics are interactions or responses between players and the mechanisms in the game, generally including storyline, characters, and challenges.

Meanwhile, aesthetics is the emotional response produced by players to the dynamics of the game, generally including sensation, fantasy, and expression. In the MDA Framework, designers use the M-D-A (Mechanics-Dynamics-Aesthetics) approach. On the other hand, players use the A-D-M (Aesthetics-Dynamics-Mechanics) approach [12].



Fig. 1. MDA Framework.

3.4 Board Game Opportunities and Trends According to Board Game Designer and Game Master






The interview with Ms. Michelle, a game master at Tabletoys Boardgames Library, Café, and Store Surabaya in September 2023 shows that Generation Z is still interested in playing board games. This statement is in line with the fact that board game cafes are busy with visitors, especially on weekends. Usually, Generation Z comes to play with their friends or partners. This generation usually looks for easy-level board games because they can play them with relaxation. Their preferences for themes and types of board games tend to be flexible. They can spend around 3-4 hours playing in board game cafes. The two main things that attract Generation Z's interest in playing a board game are the visuals of the product and the emotional way of playing.

In October 2023, researchers also interviewed Mr. Adhicipta R. Wirawan, one of the board game designers of Waroong Wars. The results show that board games are a timeless medium that will continue to develop because many exhibitions for board games have appeared. Not only that, the theory that humans are 'playing creatures' (*homo ludens*) also supports the condition that board games will always have fans. From his observations, many board game cafes are popping up where 90% of the visitors are Generation Z. Several new trends for board games are also starting to emerge, including connecting board game components with applications to the presence of hologram and Augmented Reality (AR) elements.

3.5 Survey and Interview Results with Generation Z

In August 2023, there was a survey regarding Generation Z's daily lives and their knowledge of Indonesian spices. This survey with 44 respondents aged 17-22 showed that 88.6% of the total respondents thought that young people today did not know Indonesian spices well. The main reasons are that the younger generation rarely cooks, they like to use instant herbs and spices, and they have difficulty recognizing and differentiating various types of typical Indonesian spices. In the middle of the survey, researchers gave a quiz that asked respondents to answer the names and functions of five spices based on the photos provided, including turmeric, galangal, nutmeg, black nut, and cloves. The quiz results in the table below show that the target audience still has limited knowledge about spices.

Table 2. Quiz Results about Spices

					
Correct answers (name and function)	14 answers	11 answers	4 answers	16 answers	10 answers
Correct answers (either name or function)	8 answers	9 answers	5 answers	4 answers	11 answers
Ambiguous answer(s)	2 answers	2 answers	2 answers	0 answer	0 answer
Wrong answer(s)	14 answers	15 answers	4 answers	6 answers	1 answer
"Don't know" answers	6 answers	7 answers	29 answers	18 answers	22 answers
	44 answers	44 answers	44 answers	44 answers	44 answers

Then, of the 44 respondents who filled out the survey, a sample of 4 people was taken as sources who were interviewed further in August-September 2023. The 4 sources, Aileen, Maria, Cindy, and Kevin, are part of Generation Z who love cooking. The answers of the four interviewees showed that their busy lives made them finally accustomed to using instant spices to cook simple foods such as fried rice, vegetable soup, and fried chicken. This situation prevents them from recognizing various natural spices and exploring more complex dishes. Not only that, limited knowledge also makes them afraid to try cooking with natural herbs and spices. From further discussion, they said that they did not know how to process spices, what dishes to use them in, and related substitutes for herbs and spices.

Still with the four sources, interviews were conducted regarding board game media. Based on interview answers, they are the type of person who is neutral and willing to be invited to play board games. They can also take the initiative to invite others to play if there is an attractive board game. They also did not limit themselves in choosing the type or theme they wanted to present. When choosing a board game, the main thing they pay attention to in the product is the visuals and how to play it.

3.6 Why Test Result

The why test ladder aims to find insight from the target audience, namely Generation Z aged 15-24. An audience insight obtained is that Generation Z is less familiar with spices because they feel that knowing about them does not benefit their lives.

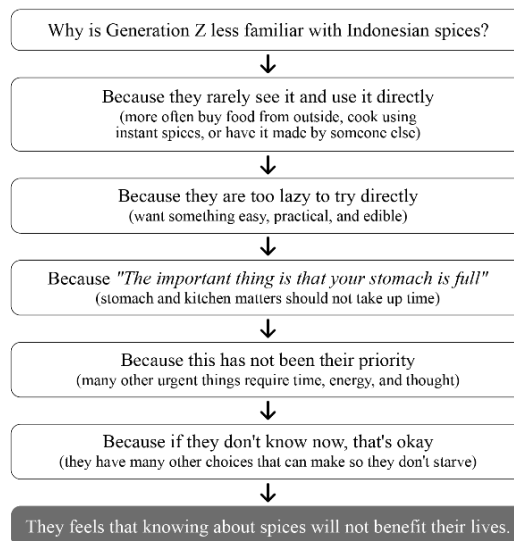


Fig. 2. Why Test Result.

3.7 4P Method

Each aspect of the 4P method (product, price, place, and promotion) aims as a reference for designing a board game with the topic of spices that suit field conditions and meet the needs of Generation Z. These aspects are described in the table below.

Table 3. 4P Method for Board Game Design

Product	Price	Place	Promotion
1. Number and age of players: 2-4 players, 15+	1. Product price: Rp300.000 – Rp400.000	1. Offline store: If possible, it will be distributed to several board game cafes	1. Direct marketing: Social media marketing via Instagram and TikTok
2. Play duration: + 45 minutes	2. Pricing strategy: Promotional pricing by giving special prices for special events or big days	2. Marketplace: Shopee and Tokopedia	2. Sales promotion: Will participate in board game exhibitions or bazaars
3. Category: Strategy game	3. Payment method: Cash and cashless		3. Advertising: Make video trailer and will upload it to the YouTube channel
4. Components: 20 kinds of spice miniatures, 15 surprise cards, 5 idol cards, 20 auction cards, 40 recipe cards, 40 food tokens, 2 market boards, 4 kitchen boards, banknotes and coins, 1 miniature market bag			4. Public Relation: Inviting related organizations to work together in promoting products
5. Level: Easy			
6. Packaging: Telescoping box with hardboard material			

3.8 SWOT Method

Each aspect of the SWOT method (strengths, weaknesses, opportunities, and threats) aims to determine the approximate conditions or situations that could occur if the board game has been designed and published. These aspects are described in the table below.

Table 4. SWOT Method for Board Game Design

Strengths	Weaknesses	Opportunities	Threats
<ol style="list-style-type: none">1. Has a unique component in the form of miniature spices that resemble their original form2. Easy game levels that are suitable for all groups	<ol style="list-style-type: none">1. Product awareness is still low2. It takes a little longer for production because some components are handmade	<ol style="list-style-type: none">1. There is still a lack of board games with the theme of Indonesian spices2. The existence of a board game cafe or special board game event can be used for promotion	<ol style="list-style-type: none">1. Competition with other board games from well-known publishers2. Competition with other cheaper board games

3.9 Product Design Recommendation

Various studies and existing data show that Generation Z is less familiar with Indonesian spices because they rarely see and use them directly. Educational media that can introduce spices interactively and according to the Generation Z character are games, especially board games. As an offline game, board games can provide a playing experience while getting to know the shape of spices directly. The experience of playing a spice-themed board game will be easier to accept and leave an impression on memory.

Therefore, the board game's title that will be designed is *Amborasa*, an abbreviation of *Amboja Rempah Nusantara*. The word *Amboja* comes from Sanskrit and means to serve food. Overall, *Amborasa* means serving food with rich Indonesian spices. The *Amborasa* board game is a strategy game with component types consisting of various miniatures, boards, and cards. This easy-level board game is for 2-4 individual players and one person as the game master. The estimated total duration for playing is above 45 minutes. The visual style used is a semi-realistic vector illustration style with brown and golden-yellow colors. The traditional visual concept will be repackaged into a more modern one so that it is easier for Generation Z to accept and will not be considered an old-fashioned concept.

4 Conclusion

Generation Z's low interest and busy activities do not allow them to learn more about spices. Spices are ingredients that play a key role in the dishes they consume every day. Knowledge about spices can also make it easier for Generation Z when they want to cook their own healthier food with a variety of tastes. The *Amborasa* board game design recommendation aims to answer existing problems by creating game media that can introduce Indonesian spices to Generation Z. In the future, there will be a trial of the final board game design on the target audience.

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