Congklak as a Source of Ready to Wear Fashion Ideas: A Product Feasibility Study

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ABSTRACT - Congklak is a traditional Indonesian game with cultural value, but is now being abandoned by Generation Z due to technological developments. One relevant cultural preservation effort is through fashion media, specifically ready-to-wear clothing. This study aims to determine the level of feasibility of ready-to-wear clothing inspired by the game of congklak. The data collection method used an observation sheet. The assessment was carried out by 5 expert panelists and 15 trained panelists using an instrument covering six indicators, namely design, size, sewing technique, aesthetics, clothing performance, and special features. Data were analyzed using descriptive percentages. The results showed that the clothing obtained an average feasibility score of 90.89% and was included in the very feasible category. Thus, ready-to-wear clothing with a congklak theme was declared technically, functionally, and aesthetically feasible, and has the potential to become an alternative medium for cultural preservation. This study shows that the development of ready-to-wear clothing based on traditional games not only meets product feasibility standards but also has the potential to become an effective medium for reintroducing local culture to Generation Z.

Keywords: Congklak, ready to wear, product suitability, cultural preservation, fashion design.

INTRODUCTION

Congklak is a traditional Indonesian game played on an oval board with two large holes at each end. The game uses seeds, which can be seashells or pebbles, called congklak seeds. Generally, a congklak board in Indonesia has a total of 16 holes: two large holes and 14 smaller holes arranged in two rows between the two large holes (Tusolihah et al., 2022a). Congklak is typically played by two people sitting facing each other. As a form of traditional cultural heritage, congklak serves not only as a form of entertainment but also represents the rich cultural values and local wisdom passed down through generations within the community.

Apart from being a traditional game, congklak also has educational value because it trains strategic thinking skills, understands the consequences of actions, and hones counting and analysis skills (Nuraisyah et al., 2025). In the game of congklak, the younger generation is also taught to learn honesty, sportsmanship, togetherness, patience, and the ability to accept defeat and victory with an open heart (Azki Faisal Hamdani et al., 2025). These values demonstrate that congklak not only has functional value as a game, but also symbolic and philosophical value that has the potential to be incorporated into creative works, including fashion design. However, despite the richness of congklak's forms, benefits, and cultural values, its existence has begun to decline. With the increasingly advanced era and the advancement of technology in the digital era, children tend to be more interested in modern games (Dasmadi et al., 2023). As a result, traditional games have shifted due to the emergence of various types of modern games (Fydarliani et al., nd). This shift has resulted in the weakening of the sustainability of traditional games as part of everyday cultural practices.

Generation Z, who grew up amidst the rapid development of digital technology, tends to be closer to gadgets, social media, and technology-based games compared to traditional games, so that this condition has an impact on the decreasing interest and intensity of children and the community in playing traditional games (Maulida, 2020). In fact, quite a few members of Generation Z no longer know the form, how to play, or the cultural values contained in the game of congklak (Tusolihah et al., 2022b). If this situation continues, it is feared that traditional games, as part of the nation's cultural heritage, will be increasingly marginalized and lose their existence among Generation Z.

Given that traditional games, including congklak, are currently experiencing an existential crisis, cultural preservation efforts are needed that go beyond conventional media like books or formal education. A more systematic approach is needed, one that is more relevant to the lives of Generation Z, namely through digital media that resonates with Gen Z (Umi & Pambudi, 2025). One of the media that is considered effective is fashion, because clothing not only functions as a body covering, but also as a means of cultural expression and communication (Wardaya et al., 2024).

On the other hand, Generation Z is known as a generation that is very close to fashion and makes fashion the main means of expressing their identity (Djafarova & Bowes, 2021). Gen Z's affinity for digital media makes them highly connected to trends circulating on platforms like Instagram and TikTok. Social media provides a space for Gen Z to share style inspiration, follow trends, and build a constantly updated digital identity (Escourido-Calvo et al., 2025). Fashion content on social media, from influencer posts to outfit-of-the-day content to haul videos, encourages people to quickly follow popular trends.

When choosing clothes, Gen Z tends to emphasize the criteria of comfort and practicality (Joan R. Rugas, 2025). This trend aligns with Gen Z's growing interest in ready-to-wear clothing. In the fashion industry, ready-to-wear refers to mass-produced clothing in standard sizes and pre-made shapes, allowing it to be worn immediately without the need for additional adjustments (Efremov et al., 2025). The practical, readily available, and quick-to-wear nature of ready-to-wear products makes them highly suited to the needs of Gen Z, who prioritize speed, efficiency, and ease of appearance. The simple yet stylish nature of ready-to-wear makes them readily accepted and frequently used by Gen Z in their daily activities. Because many members of this generation are accustomed to using fashion as a medium of expression, ready-to-wear clothing that is comfortable, functional, yet still on trend is a logical choice for maintaining a fashionable appearance with minimal effort. This makes ready-to-wear no longer foreign, but rather part of the lifestyle of the younger generation in the digital era.

Given this position, ready-to-wear fashion has great potential to be utilized as a medium for conveying cultural values. Research on ready-to-wear fashion design with local cultural elements, such as highlighting traditional games like congklak, shows that integrating cultural heritage into ready-to-wear designs can be an effective way to preserve culture among a modern and digitally challenged younger generation. Through this approach, cultural values that have begun to be lost can be re-presented in a form that is relevant to the tastes and lifestyles of Gen Z, without compromising the comfort and practicality they seek.

Therefore, the adoption of the theme of traditional games, especially congklak, into ready-to-wear fashion as a source of ideas for creating fashion designs can be an alternative strategy for preserving culture that is innovative and relevant to the character of Generation Z. Congklak has a strong visual potential, which can be explored through the curved shape of the congklak board, the arrangement of round holes, and the characteristics of congklak seeds that resemble shells. These visual elements have been translated into ready-to-wear fashion designs with the theme "Playful Heritage" and colorful color nuances, namely light yellow, light pink, light blue, and dark pink. Colors have characters that convey emotions to the user (Lunardi & Aryani, 2024). Therefore, the use of colorful colors was chosen to support the appearance of the clothes so as to create a more cheerful impression and in accordance with the theme being raised..By adopting this theme, it is hoped that fashion products will be created that not only have aesthetic value, but are also able to serve as a medium for reintroducing the game of congklak to Generation Z.

The congklak-themed ready-to-wear clothing examined in this study is no longer in the conceptual design stage, but has been realized as a final product. Thus, the focus of the research is not on the process of design creation or development, but on the evaluation of the finished garments. In fashion product development, a design is not only visually appealing; it also needs to be tested for feasibility before publication or wider production, for example through the prototype evaluation stage in the clothing design process (Indarti, 2020).

In this regard, this study aims to evaluate the feasibility of ready-to-wear congklak-themed clothing that has been produced, by considering various aspects, namely design plans, size accuracy, sewing technique quality, aesthetic value, clothing performance when worn, and the special features or advantages of the product. Thus, this study is not only intended as an effort to preserve cultural elements through fashion media, but also as a scientific study to ensure

that the resulting clothing truly meets the standards of feasibility in terms of design and practical application in clothing use.

In line with the need to ensure that fashion products inspired by cultural elements are not only visually appealing but also applicable in everyday use, this study aims to evaluate the feasibility of ready-to-wear clothing inspired by the traditional game of congklak that has been realized as a final product. The evaluation focuses on product feasibility in terms of design quality, size accuracy, sewing techniques, aesthetic value, clothing performance when worn, and the distinctive features of the clothing, so that the resulting product can be assessed comprehensively from both technical and visual aspects. Through this evaluation, the study contributes to fashion studies by providing empirical evidence on ready-to-wear product feasibility assessment while also showing that fashion products integrating traditional cultural elements can function as an alternative medium for preserving and reintroducing cultural heritage in forms that are relevant and appealing to Generation Z in the contemporary era.

METHOD

This research uses a quantitative descriptive method with a product feasibility study design, where data is obtained through a structured assessment of a ready-to-wear fashion product developed from the idea of the traditional game congklak. The descriptive method is a research method that conveys research results by describing what is seen, obtained, and felt. The author simply describes the subject or object being studied according to the findings without any manipulation or the like (Priadana & Sunarsi Denok, 2021). The quantitative descriptive approach was chosen because it is suitable for describing the level of product suitability through the scores given by respondents on a numerical scale assessment instrument, which are then interpreted descriptively in certain quality categories.

The assessment of fashion product feasibility was conducted by expert and trained panelists, in line with fashion design evaluation practices and fashion learning modules that generally involve experts and students as assessors. In this study, the assessors consisted of five expert panelists who were competent and experienced in the field of fashion and fashion design (fashion practitioners), as well as fifteen fashion design students who had completed and passed advanced courses, namely *Adi Busana* and Women's Fashion Production, thus possessing sufficient knowledge to assess product feasibility. The involvement of both groups of panelists was intended to obtain a more comprehensive evaluation through the combination of professional and academic perspectives. Expert panelists provided assessments based on practical experience and mastery of technical aspects and fashion design principles, while trained panelists provided assessments based on academic understanding as well as user perspectives regarding product comfort and acceptance. This combined approach involving expert and trained panelists is also consistent with findings that fashion design evaluation can be effectively conducted through a combination of expert and novice assessors, provided that the number of raters is sufficient and the assessment instrument used is reliable.

The assessment was conducted using a predetermined scale and explained to the panelists before the observation began, ensuring a uniform understanding of the meaning of each assessment category. Expert and trained panelists conducted the assessment based on their professional perspectives, taking into account theoretical knowledge and academic and practical experience in the field of fashion and clothing design. Therefore, the data obtained is expected to reflect a comprehensive and reliable assessment of the suitability of the ready-to-wear clothing developed.

The research instrument was prepared in the form of a fashion suitability assessment questionnaire that included six fashion indicators, namely: (1) design, (2) size, (3) sewing technique (4) aesthetics (5) fashion performance when worn and (6) special features. Each indicator consisted of 5 statement items, resulting in a total of 30 assessment items. Each item had six assessment rubrics to assess various aspects of fashion suitability. This instrument model is in line with research on fashion product suitability assessment that uses several structured aspects (e.g., design elements and principles, technical skills, appearance or presentation, and comfort and function aspects) which were then assessed using an assessment scale and analyzed quantitatively. Score data from panelists and students were analyzed using descriptive statistics (average and percentage) to determine the category of the level of suitability of ready-to-wear congklak-themed fashion.

Before being used in the data collection phase, the assessment instrument first underwent a validity test to ensure that each statement item truly represented the clothing suitability indicators. The type of validity used in this study was content validity, which assesses the extent to which there is agreement among validators that the instrument is in accordance with the construct being measured.

Validity testing was conducted by seven expert validators with expertise in fashion and fashion design. The validators were asked to rate the relevance of each statement using a scale of 1 to 5. The data from the validators' assessments were then analyzed using the Aiken's V index, using the following formula:

$$V = \frac{\sum s}{n(c-1)}$$

Sources: Suryanta (2021)

Information:
V   = Aiken Validity Index
S   = r – lo
you = Lowest validity rating number
C   = Highest validity assessment score
n   = Number of assessors
r   = Number given by the appraiser

The interpretation criteria for each item in this study stipulate that the Aiken's V value is declared valid if the V coefficient ≥ 0.75 with a probability of 0.41(Prasetyaningtyas et al., 2024). This provision is used as a basis for determining the feasibility of each statement item in the research instrument. Based on the results of the validity test using the Aiken's V formula, the calculated V value of the 30 statement items all showed a value ≥ 0.75. Thus, it can be concluded that all statement items used in this research instrument are declared valid.

The instrument's reliability was estimated using the Intraclass Correlation Coefficient (ICC). This reliability estimate aims to determine the extent to which raters' assessments of all items in the instrument are consistent with each other.

TABLE 1. Intraclass Correlation Coefficient.

	Intraclass Correlatio nb	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.926a	.835	.948	45.365	29	174	.000
Average Measures	.978c	.956	.972	45.365	29	174	.000

The stability of the instrument was analyzed using the Intraclass Correlation Coefficient (ICC), with a summary of the test results presented in the table above. The calculation results show that the ICC value of the Average Measure is 0.978 with a significance level of 0.000, which is included in the very high reliability category, while the ICC value of the Single Measure is 0.926, which indicates a very good level of reliability. Based on the interpretation of the analysis results of the instrument used to assess the suitability of clothing, it was obtained that the ICC value is in the range of 0.75 to 1.00, which reflects a very good level of estimation (Prasetyaningtyas & Wening, 2022). These findings indicate that the assessment instrument has strong internal consistency and is reliable for testing the suitability of ready-to-wear clothing inspired by the game of congklak.

Data collection in this study was conducted using an observation sheet completed by expert panelists and trained panelists. The observation sheet was designed as an instrument to assess the feasibility of ready-to-wear clothing developed by taking inspiration from the traditional game of congklak. This instrument was designed to record various important aspects related to the feasibility of the clothing, both related to design elements and the technical quality of the workmanship. Each panelist was asked to conduct direct observations of the ready-to-wear clothing that had been produced. The observations were conducted in conditions that allowed the panelists to thoroughly examine the details of the clothing, including silhouette, construction, material selection, and the quality of the final product. After the observation process was completed, the panelists then provided an assessment of each item contained in the instrument.

The data analysis in this study was conducted using Microsoft Excel. Excel was used to calculate and illustrate the average percentage of feasibility for each assessed indicator. The feasibility percentage calculation refers to the percentage formula used in previous studies, which involves comparing the obtained score with the ideal score and then multiplying the result by 100% to obtain a percentage value (Sugiyono, 2019).

The results of the feasibility analysis are then processed and presented in various data presentation formats, such as tables and graphs, and summarized using descriptive statistical measures, including average, mean, mode, and

median. This presentation is intended to facilitate researchers in interpreting the data and observing trends in the feasibility level for each indicator. Through this procedure, descriptive percentage categories generated by each feasibility indicator can be determined.

The eligibility categories are described by percentages as follows:

TABLE 2. Eligibility categories.

No	Percentage	Category
1	85% - 100%	Very Worthy
2	69% - 84%	Worthy
3	45% - 68%	Quite Decent
4	37% - 52%	Less than worthy
5	20% - 36%	Totally Unworthy

RESULTS AND DISCUSSION

The purpose of this study is to determine the suitability level of ready-to-wear clothing inspired by the traditional game of congklak based on the assessment results given by expert panelists and trained panelists, referring to six assessment indicators that have been created. The assessment data is then analyzed quantitatively in the form of percentages and presented in a fashion suitability analysis table. Based on the analysis results, a representative picture is obtained regarding the suitability level of the ready-to-wear clothing that is the object of study in this study.

TABLE 3. Results of the feasibility analysis of ready to wear clothing.

No	Indicator	Expert Panelists	Trained Panelists	Average
1	Design	15.07%	14.71%	14.89%
2	Size	13.87%	15.29%	14.58%
3	Aesthetics	14.27%	15.47%	14.87%
4	Sewing Techniques	16.13%	14.98%	15.56%
5	Fashion Performance	15.73%	15.29%	15.51%
6	Special Features	15.60%	15.38%	15.49%
	Total	90.67%	91.11%	90.89%
	Criteria	**VERY WORTHY**	**VERY WORTHY**	**VERY WORTHY**

Based on the analysis results table, the feasibility test for ready-to-wear clothing inspired by the game of congklak using six assessment indicators showed an average percentage of 90.89%, which is included in the very feasible category. This result indicates that the developed clothing has met the feasibility criteria both in terms of design and overall product quality. The assessment given by five expert panelists resulted in a percentage of 90.67%, while fifteen trained panelists gave an assessment with a percentage of 91.11%. Both assessment results are in the very feasible category, so it can be concluded that both expert panelists and trained panelists have relatively similar views on the quality of the clothing tested. However, expert panelists and trained panelists have different perspectives in conducting their assessments. Expert panelists assess clothing based on professional experience and mastery of technical aspects and design principles (Nyitrai et al., 2021), while trained panelists conducted assessments based on academic knowledge and experience gained during lectures. Therefore, the fashion assessment process requires a sufficient understanding of the product characteristics and each indicator being assessed, so that the panelists involved in this study can be deemed competent to participate in the product suitability test.

FIGURE 1. Ready to wear fashion inspired by congklak.

According to the feasibility test, the indicator with the highest percentage was sewing technique, with a percentage of 15.56%. These results indicate that this ready-to-wear garment inspired by congklak is still considered very suitable by the expert panelists and trained panelists. However, the item "Pattern joints are precise and do not shift" still shows some imprecise joints and there are areas of pulling and bulging at the joints. Quality clothing is assessed by the stitching and joints because they influence the shape of the garment when worn (Kakde, 2018). Meanwhile, the item "Use of decorative techniques" is assessed as appropriate according to the design and the position of the decoration is neat, strong, not easily removed and the decorative techniques add aesthetic value without disrupting the main appearance of the clothing.

The indicator with the lowest percentage in the feasibility test assessment was aesthetics, with a percentage of 14.87%. Aesthetics can be assessed based on balance, contrast, and proportion (Hu et al., 2022). Despite having the lowest percentage, the aesthetics in this indicator are still considered very worthy. The item "The combination of details and ornaments adds aesthetic value without being excessive" in the feasibility test stated that the clothes made did not have ornaments that were balanced with the size of the clothes. Meanwhile, in the item "Clothing has a strong visual appeal according to the theme" it was said that the proportion of details and empty areas was not balanced. From the results above, it can be said that the panelists assessed that the ready-to-wear clothes inspired by the game of congklak had met several categories such as aspects of sewing techniques and aesthetics.

FIGURE 2. Ready to wear fashion design.

The design indicator received a percentage of 14.89%, which means the design used was categorized as very appropriate by expert panelists and trained panelists. The item "The color of the clothing is in harmony with the theme and character of the wearer" states that the colors used in this ready-to-wear clothing are in accordance with the theme and the way the colors are combined looks harmonious. In the design indicator, aspects assessed include color, line, and shape. The right color selection plays an important role in increasing the aesthetic value and strengthening the character of the resulting design, because color not only functions as a visual element, but also can build impressions and energy in a design work (Kumar & Naaz, 2023). In addition, the use of appropriate lines and shapes also supports the creation of a harmonious and balanced design composition, so that the overall appearance of the clothing can look more attractive and have a clear visual identity. The point "Design lines strengthen the body shape and direction of attention of the clothing" shows that the curved lines in the clothing are able to represent the design inspiration, namely the congklak board. Meanwhile, the point "The shape or silhouette of the clothing is in accordance with the character and concept" explains that the Y silhouette in the clothing supports the look of clothing that looks sporty feminine.

The size indicator has a percentage of 14.58%, which is still categorized as very appropriate for the clothing. The item "The chest, waist, and hip measurements match the wearer's body size" provides information that the chest circumference of the clothing fits the body shape, namely not too tight because the outer or jacket on this clothing is made in an oversized size, but other measurements such as the waist circumference and hip circumference are proportional and appropriate for the wearer's body. The oversized size on the jacket is indeed designed according to the design and remains within the corridor of clothing suitability (Anwar et al., nd). The size of the chest circumference, waist circumference and hip circumference are important things in clothing because they determine the suitability of the clothes to the wearer's body shape (Adikari et al., 2020).

The clothing performance indicator obtained a percentage score of 15.51%, which is included in the very appropriate category. This result indicates that the clothing produced has good performance when worn. One of the assessment items, namely "The clothing looks proportional and in harmony with the model's body shape," shows that overall the clothing looks fitting and harmonious when worn, with the length of the sleeves and skirt that have been adjusted to the model's body proportions. The suitability of the proportions and harmony of clothing with the model's body shape is an important aspect because it can support and highlight the appearance of the wearer (Penko & Rudolf, 2025).

In the uniqueness indicator, a percentage score of 15.49% was obtained, which is included in the very appropriate category. This result indicates that the ready-to-wear clothing developed has a good uniqueness and distinctiveness value compared to fashion works in general. This assessment reflects that the product not only meets functional and aesthetic aspects, but also has added value in terms of creativity and novelty of ideas. One of the assessment items, namely "The fashion design shows a new, creative idea that is different from general work," shows that this clothing displays a design character that is not commonly found in ready-to-wear clothing in general. This can be seen from the choice of congklak as the source of inspiration, the use of sequins that represent congklak seeds, and the application

of curved lines in the fashion design that strengthens the visual character of the theme raised. The inspiration of traditional games becomes a visual identity that distinguishes the clothing (Puspamurti et al., 2023). These elements not only serve as decoration, but also serve as a visual identity that distinguishes this clothing from similar works. The design idea inspired by the game of congklak is also clearly reflected in the final product, both in terms of shape, detail, and the visual concept displayed. The processing of congklak elements into clothing designs produces works that give an original, fresh impression, and are able to attract positive attention. This shows that clothing does not simply adapt existing trends, but presents a new interpretation that has its own character and characteristics.

CONCLUSION

Based on the research and discussion, it can be concluded that ready-to-wear clothing inspired by the traditional game of congklak is highly feasible for use and further development. This is demonstrated by the feasibility assessment results, which obtained an average score of 90.89%, with the percentage of expert panelists at 90.67% and trained panelists at 91.11%, all of which are in the highly feasible category.

The suitability assessment, which was reviewed based on six indicators: design, size, sewing technique, aesthetics, clothing performance, and features, showed that all aspects met the eligibility criteria for ready-to-wear clothing. The sewing technique indicator received the highest score, indicating that the construction quality and final product were considered very good, while the aesthetic indicator received the lowest score but remained in the very good category. This indicates that the clothing generally meets quality standards from both technical, functional, and visual perspectives.

Furthermore, the results of this study also show that the use of the traditional game of congklak as a source of design ideas not only produces clothing that is technically and aesthetically sound, but also able to convey uniqueness, originality, and a strong visual identity. Thus, this congklak-themed ready-to-wear clothing has the potential not only as an applicable fashion product but also as an alternative medium for cultural preservation that is relevant to the characteristics of Generation Z.

Based on these findings, it can be concluded that the integration of local cultural elements into ready-to-wear fashion through the right design approach and product feasibility testing is an effective strategy to produce fashion works that are not only visually attractive, but also functionally feasible and applicable for use in everyday life.

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