

A Comparative Study of Batter Methods for Traditional Apem Cake and Modern Pancake as Culinary Tourism Products in Yogyakarta

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Abstract. This study aims to analyze the comparative application of the batter method in making traditional apem and modern pancake and to examine their potential as culinary tourism products in Yogyakarta. The batter method is a basic technique in cake making that involves mixing liquid and dry ingredients to form a dough before cooking. This study used a qualitative method with a comparative study method. Data collection was conducted through observation of the cake-making process, documentation, and literature review related to pastry and traditional culinary techniques. Aspects analyzed included ingredient composition, dough mixing process, dough development method, heating technique, and product characteristics. The research results show that apem uses rice flour, coconut milk, sugar, and yeast as the main ingredients, followed by a fermentation process before being cooked using steaming or baking methods. Meanwhile, pancakes use wheat flour, eggs, milk, sugar, and butter, with the batter developed using baking powder and cooked in a pan or griddle. These differences in ingredients and processing techniques result in distinct product characteristics in terms of texture, taste, aroma, and appearance. The research findings indicate that apem has potential as a culinary tourism product, representing the richness of Yogyakarta's traditional cuisine, while also opening up opportunities for culinary innovation through a combination of traditional and modern techniques.

Keywords: apem, batter method, culinary tourism, pancakes

RESEARCH BACKGROUND

The culinary industry, particularly in the pastry and bakery sectors, has seen rapid growth over the past few decades. Advances in food processing technology and increased creativity in the world of gastronomy have led to the emergence of an increasingly diverse range of cake products. This phenomenon is evident in the increasing ease with which people can find modern cakes, pastries, and international-style desserts in bakeries, hotels, cafes, and small-scale culinary businesses. Meanwhile, traditional cakes, which are part of Indonesia's culinary heritage, are still produced and consumed, although in some cases their presence is being replaced by modern products. This situation reflects changes in consumption patterns as well as developments in the techniques and ingredients used in cake making.

Traditional Indonesian cakes are generally made using locally available ingredients, such as rice flour, glutinous rice flour, coconut milk, brown sugar, and various other natural ingredients. The processing techniques are relatively simple, such as steaming, boiling, or frying, and these methods have been passed down through generations as part of the community's culinary traditions. In contrast, modern cakes often use ingredients such as wheat flour, butter, milk, eggs, chocolate, and various food additives to enhance product quality. The processing techniques are also more complex, such as baking, whipping, and creaming, which require special equipment and certain skills in the manufacturing process (Mhatre, 2023).

Differences in raw materials and processing techniques influence the characteristics of the resulting product. Traditional cakes generally have a denser or chewier texture with distinctive flavors derived from local ingredients. Meanwhile, modern cakes tend to have a softer, lighter texture, and a more visually appealing appearance. According to Simatupang (2023), the selection of appropriate raw materials and processing significantly influences the quality of pastry products, particularly in terms of texture, flavor, and appearance. Furthermore, processing conditions, such as baking temperature and ingredient composition, can also affect the physical and sensory properties of bakery products (Amani et al., 2022).

Innovations in cake products continue to be pursued to enhance their appeal and market value. Several studies have shown that modifying traditional foods through the concept of fusion food can produce more innovative products without losing their inherent cultural identity. Research by Bridha, Priatini, and Hamdani (2023) suggests that developing fusion food approaches to traditional foods can increase product appeal in the modern market. A similar thing was also conveyed by Letari, Hertati, and Asharie (2023) who stated that innovation in flour-based products can produce product variations that are more in line with current consumer preferences. However, the development of modern cakes also poses challenges to the sustainability of traditional cakes. Changes in consumer patterns, particularly among the younger generation, indicate a preference for modern foods over traditional ones. Research by Qotrunnada, Nurani, and Yulia (2022) indicates that adolescents' knowledge of traditional cakes remains relatively low, which may influence their interest in these products.

Several previous studies have discussed pastry product quality, traditional food innovation, and the influence of raw materials and processing techniques on product characteristics (cui et al., 2019; cataluna & wardana, 2025; allahyari et al., 2025). However, most of these studies focused on a single product type or specific technical aspect, resulting in relatively limited studies comparing the use of raw materials and processing techniques between traditional and modern cakes. Therefore, research into the differences in ingredient use and processing techniques between traditional and modern cakes is necessary to understand the characteristics of each product and the potential for developing culinary innovations that combine traditional and modern elements.

REVIEW OF RELATED LITERATURE

Traditional Cake

Traditional cakes are part of the culinary cultural heritage that has developed in various regions of Indonesia. These cakes are generally made using local ingredients such as rice flour, glutinous rice flour, coconut milk, and brown sugar. The processing methods tend to be simple, such as steaming, boiling, or frying. These techniques have been used for generations and have become a hallmark of traditional cake making. Research conducted by Qotrunnada, Nurani, and Yulia (2022) shows that the younger generation's level of knowledge about traditional cakes is still relatively low. This indicates a shift in public preferences toward modern foods. This condition can impact the sustainability of traditional cakes if not balanced with preservation efforts and product innovation. Furthermore, improving the quality of traditional cakes has also been a focus in various studies. Cataluna and Wardana (2025) stated that improving the quality of traditional cakes can be achieved through innovation in raw materials, processing techniques, and the development of more modern product displays. With these innovations, traditional cakes are expected to remain competitive with modern culinary products.

Modern Cakes in the Pastry and Bakery Industry

Modern cakes are pastry and bakery products that have evolved along with advances in food processing technology and international culinary influences. These products generally use raw materials such as wheat flour, butter, milk, eggs, chocolate, and various food additives. The processing techniques used are also more complex, such as baking, whipping, and creaming. According to Simatupang (2023), the selection of raw materials and processing plays a crucial role in determining the quality of pastry products. The right processing technique can produce a soft texture, a more balanced flavor, and an attractive product appearance. Furthermore, technological developments in the bakery industry also enable the creation of a variety of products with better quality. Cui et al. (2019) explain that processing technology in the bakery industry continues to evolve to improve product quality in terms of texture, stability, and sensory value. This demonstrates the crucial role of technological development in creating more innovative modern cake products.

The Influence of Raw Materials on the Characteristics of Cake Products

Raw materials are one of the main factors determining the quality and characteristics of cake products. The composition of ingredients such as flour, sugar, fat, and eggs can affect the texture, taste, color, and structure of the resulting product. Research by Allahyari et al. (2025) shows that differences in ingredient formulation and baking conditions can affect the physicochemical properties of cake products, such as moisture, color, and texture. This indicates that variations in raw materials play a significant role in determining the quality of bakery products. Gallagher, Gormley, and Arendt (2004) also explain that the development of ingredient formulations, including the use of gluten-free ingredients, can significantly affect the characteristics of bakery products. In addition, Selomulyo and Zhou (2007) state that the storage and processing of ingredients can also affect the quality of dough and the final product.

The Influence of Processing Techniques on Bakery Products

Processing techniques are a crucial factor in determining the quality of bakery products. Processes such as mixing, fermentation, baking, and cooling influence the structure and texture of the resulting product. Cauvain and Young (2008) explain that bakery processing involves complex physical and chemical changes to food ingredients. These changes influence the formation of the product's structure during the baking process. Furthermore, Mondal and Datta (2008) state that the baking process involves various chemical reactions that affect the product's texture and structure. The browning reaction that occurs during baking also plays a role in the formation of the distinctive color and aroma of bakery products (Purlis, 2010). Research by Amani et al. (2022) also shows that baking temperature and ingredient composition influence the structure and sensory properties of cake products. This demonstrates that processing techniques play a significant role in determining the quality of bakery products.

Innovation of Cake Product through Fusion Food Concept

The development of the culinary industry has driven various innovations in food products, one of which is the concept of fusion food. This concept combines traditional elements with modern processing techniques to produce more innovative products. Research conducted by Bridha, Priatini, and Hamdani (2023) show that modifying traditional foods through fusion techniques can increase product appeal in the modern market. This allows traditional foods to remain relevant to evolving consumer tastes. Furthermore, Veronika and Andriani (2026) state that the use of local ingredients

combined with modern processing techniques can produce innovative pastry products. Letari, Hertati, and Asharie (2023) also explain that innovation in flour-based products can increase product variety to suit today's consumer preferences. Thus, innovation through the concept of fusion food can be a strategy for developing traditional pastry products to be more competitive in the modern market.

RESEARCH METHOD

This study used a qualitative approach with a comparative case study design to analyze the differences in raw material use and processing techniques in traditional and modern cakes and their impact on the characteristics of the resulting products. A qualitative approach was chosen because this study aims to deeply understand the production process, material use, and processing techniques used by culinary entrepreneurs in a real-world context (Creswell & Poth, 2020). The comparative case study design allows researchers to compare two objects with different characteristics, thus identifying similarities and differences in the production processes of both types of cakes (Yin, 2021). The study was conducted at several culinary businesses producing traditional and modern cakes in the Yogyakarta region from February to April 2025. Research informants consisted of culinary entrepreneurs, pastry chefs, and traditional cake makers with at least two years of experience in the production process. Informants were selected using purposive sampling techniques followed by snowball sampling to obtain more in-depth information (Moser & Korstjens, 2020). Data collection techniques were semi-structured interviews, participant observation, and documentation. Data validity was tested using source and method triangulation and member checking (Denzin & Lincoln, 2021). Data analysis employed the Miles and Huberman interactive model, which includes data reduction, data presentation, and conclusion drawing (Miles, Huberman, & Saldaña, 2020). This approach enabled researchers to comprehensively understand the relationship between raw materials, processing techniques, and product characteristics.

RESULTS AND DISCUSSION

Based on the results of interviews, observations, and documentation during the research, several main themes were identified that illustrate the differences in raw material use and processing techniques in traditional and modern cakes. These themes include the characteristics of raw materials, processing techniques in the production process, and the characteristics of the resulting products. These findings indicate that raw materials and processing techniques are closely related to the quality and characteristics of pastry and bakery products. The results indicate that traditional cakes generally use local raw materials that are easily obtained in the surrounding environment, such as rice flour, glutinous rice flour, coconut milk, and brown sugar. These ingredients have been used for generations and provide a distinctive flavor to the cake products. One informant stated:

"Kalau kue tradisional itu biasanya pakai tepung beras sama santan. Rasanya lebih gurih dan khas dibandingkan kalau pakai bahan yang lain." (Informant 2)

"Traditional cakes usually use rice flour and coconut milk. The taste is more savory and distinctive than if you use other ingredients." (Informant 2)

Another informant also added:

"Bahan yang dipakai itu biasanya dari pasar seperti santan segar dan gula merah. Kalau pakai bahan itu rasanya lebih alami dan orang langsung tahu itu kue tradisional." (Informan 5)

"The ingredients used are usually from the market, such as fresh coconut milk and brown sugar. Using these ingredients gives it more natural taste, and people will immediately know that it's a traditional cake." (Informant 5)

This statement demonstrates that local ingredients not only serve as the main ingredient but also shape the flavor identity of traditional cakes. This aligns with research stating that traditional cakes are part of the culinary heritage that holds cultural value in society (Cataluna & Wardana, 2025). However, interest in traditional cakes among the younger generation tends to decline due to low levels of knowledge about traditional foods (Qotrunnada et al., 2022). In contrast, modern cakes use a more diverse range of ingredients, such as wheat flour, butter, milk, eggs, chocolate, and food additives. These ingredients allow for a softer texture and a more attractive product appearance. A pastry chef explained:

"Dalam pastry kita banyak menggunakan butter, telur, dan tepung terigu karena bahan-bahan itu membantu menghasilkan tekstur yang lebih ringan dan lembut." (Informan 4)

"In our pastries, we use a lot of butter, eggs, and wheat flour because these ingredients help to produce a lighter and softer texture." (Informant 4)

Another informant also added:

"Kalau pakai bahan seperti butter dan cream, hasilnya lebih stabil. Jadi kalau bikin cake berkali-kali hasilnya hampir sama." (Informan 6)

"If you use ingredients like butter and cream, the results are more consistent. So if you make the cake repeatedly, the results will be almost the same." (Informant 6)

These findings indicate that ingredient composition significantly influences pastry product quality. The choice of ingredients influences the texture, taste, and appearance of the product (Simatupang, 2023), and can also influence the physicochemical properties of the cake (Allahyari et al., 2025). In addition to ingredients, processing techniques are also a distinguishing factor between traditional and modern cakes. Observations show that traditional cakes are generally prepared using simple techniques such as steaming, boiling, or frying with relatively simple equipment. One informant explained:

"Biasanya kalau bikin kue tradisional itu pakai perkiraan saja. Sudah terbiasa jadi tahu kira-kira adonannya harus seperti apa." (Informan 7)

"Usually, when making traditional cakes, I just use estimates. I'm used to it, so I know roughly what the dough should be like." (Informant 7)

Meanwhile, modern cake making involves more complex techniques such as mixing, whipping, creaming, and baking using specialized equipment like mixers and ovens. One informant stated:

"Kalau membuat cake atau pastry, kita harus memperhatikan teknik mixing dan suhu oven. Kalau salah sedikit saja, hasilnya bisa berbeda." (Informan 3)

"When making cakes or pastries, we have to pay attention to mixing techniques and oven temperature. Even the slightest error can make the results different." (Informant 3)

Another Informant also added:

"Dengan mixer dan oven, prosesnya jadi lebih cepat dan hasilnya juga lebih konsisten dibandingkan kalau manual." (Informan 8)

"With a mixer and oven, the process is faster and the results are more consistent than if done manually." (Informant 8)

These processing techniques influence the dough structure and characteristics of the final product. The mixing and baking processes help form a lighter structure, resulting in a softer texture in pastry products (Cui et al., 2019). Furthermore, the baking process also involves physical and chemical reactions that affect the color and texture of bakery products (Mondal & Datta, 2008; Purlis, 2010). Differences in raw materials and processing techniques directly affect the characteristics of the resulting product. Traditional cakes tend to have a denser or chewier texture with the natural flavors of local ingredients. In contrast, modern cakes have a softer texture and a more visually appealing appearance. One informant stated:

"For pastries, we usually also pay attention to the decoration because the appearance really influences consumer interest in buying." (Informant 1)

This shows that besides taste, visual aspects are also an important factor in consumer decisions. In the modern culinary industry, product innovation is often carried out by combining traditional and modern elements through the concept of fusion food (bridha et al., 2023). The use of local ingredients in modern pastry products can also increase the economic value of traditional foods (veronika & andriani, 2026) and produce new product variations that suit current consumer preferences (letari et al., 2023). Overall, this study shows that raw materials and processing techniques have a significant influence on cake product characteristics. Local ingredients in traditional cakes provide a distinctive taste identity, while modern ingredients and techniques allow for a softer texture and a wider variety of products. Therefore, developing product innovations that combine local ingredients with modern processing techniques can be a strategy to increase the competitiveness of traditional cakes in the modern culinary market.

CONCLUSION

This study analyzes the differences in raw material and processing techniques used in traditional and modern cakes and their impact on the characteristics of the resulting products. The results show that traditional cakes generally use local raw materials such as rice flour, glutinous rice flour, coconut milk, and brown sugar, which produce a distinctive taste and reflect the cultural identity of the community. In contrast, modern cakes use more processed ingredients such as wheat flour, butter, milk, and eggs, which can produce a softer texture and a more attractive product appearance. In addition, processing techniques in traditional cakes tend to be simple, such as steaming and frying, while modern cakes use more complex techniques such as mixing, whipping, and baking. These findings indicate that raw materials and processing techniques play an important role in determining the quality and characteristics of cake products. Practically, this study provides a reference for culinary entrepreneurs in developing product innovations that combine local ingredients with modern

processing techniques to increase the competitiveness of traditional cakes. Further research is recommended to examine consumer preferences and marketing strategies for culinary products.

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