

Integration of Financial Technology and Delivery Services on Digital Restaurant Menu in Bubur Tangki 18 Wawah Semarang Restaurant

Maxine Olexa Phoa¹, Ridwan Sanjaya², Andre Kurniawan Pamudji³

^{1,2,3}Department of Information Systems, Computer Science Faculty, Soegijapranata Catholic University, Indonesia

¹²³Pawiyatan Luhur IV No.1, Bendan Duwur, Semarang City, Central Java 50234

¹maxine.contact.academic@gmail.com

²ridwan@unika.ac.id

³andre.kurniawan@unika.ac.id

Abstract— The COVID-19 pandemic has transformed the restaurant business landscape worldwide, prompting the adoption of digital technology to enhance service and operational efficiency. This research explores the integration of financial technology and delivery services into the digital menu of a restaurant in Semarang, Indonesia, focusing on Bubur Tangki 18 Wawah Semarang. The aim of this study is to integrate payment mechanisms through financial technology with the Midtrans payment gateway to improve the functionality of the digital menu at RM Bubur Tangki 18 Wawah Semarang and to integrate GoSend and Grab Delivery courier services into the digital menu of Bubur Tangki 18 Wawah Semarang. The Waterfall development method is used to organize the development process, while qualitative testing involves restaurant owners and representative employees. This research finds that integrating digital payments through the Midtrans payment gateway helps expedite transactions and reduce errors in financial calculations, enhancing restaurant operational efficiency. Midtrans provides various digital payment methods, including e-wallets, card payments, and bank transfers. Meanwhile, integrating delivery services into the digital menu facilitates the online ordering process, expands customer reach, and enhances transaction convenience.

Keywords— delivery services, digital restaurant menu, financial technology, fintech, midtrans

I. INTRODUCTION

“The pandemic hasn’t really ended, but rather it echoes.” This statement also applies to the impact of Covid-19 which resonates and continues to this day for various sectors of the global economy [1]. Throughout the crisis of the past few years, many aspects of daily life have undergone rapid transformation towards digitalization and online integration. One of the industries affected is the restaurant industry [2].

The restaurant industry is using technological means to adapt to the new era. In the post-pandemic period, many restaurants have not returned to the pre-pandemic situation but have shifted to digitalization by using Point of Sale (POS) devices [3].

The Point-of-Sale system offers many benefits to businesses. This system can streamline the transaction process by automatically recording transactions, printing purchase bills, and securing purchase record data [4]. There are many programs that can be used alongside the Point-of-Sale system to enhance functionality, including menu management

systems, digital payments, and online ordering [5].

Indonesia is not exempt from this global trend. In fact, the COVID-19 pandemic has had a significant impact on the restaurant sector in Indonesia, where dependence on financial technology and food delivery services has increased significantly [6]. Even as the pandemic recedes, the restaurant business sector continues to leverage digital technology for growth [7].

The term "financial technology" (or FinTech) refers to the use of technology in providing financial services. Currently, financial technology encompasses digital payment systems, new digital advisory and trading systems, peer-to-peer lending, equity crowdfunding, cryptocurrencies, and blockchain technology [8].

Digital payments have become one of the post-pandemic norms in Indonesia [9]. According to The Asian Banker, digital payment adoption has surged due to COVID-19, with the value of electronic money transfers growing by 38.62% [10]. This can be interpreted as financial technology solutions also playing a significant role in the adaptation of the Indonesian restaurant sector [11]. As traditional cash transactions become less popular, cashless payment methods and digital wallets become more popular. Both customers and restaurant businesses are transitioning to financial technology solutions to facilitate safe and efficient financial transactions. Payment gateway is a financial service used to process digital payments, typically utilized by e-commerce platforms. It accepts various payment methods to streamline and expedite transactions while ensuring security [12].

During the peak of the pandemic, many restaurants in Indonesia, including those in Semarang, experienced a surge in demand for food delivery services. According to Statista, around 89% of respondents in Indonesia stated that they would continue to order food online even after restaurants and dining places are opened and social restrictions due to the Covid-19 outbreak

are lifted [13]. Restaurants that were previously heavily reliant on dine-in customers quickly shifted to delivery platforms and apps. Convenience, security, and accessibility of food delivery services become crucial for both businesses and customers.

The developments in the Indonesian restaurant sector illustrate the prolonged impact of the pandemic, where financial technology solutions and dependence on food delivery services have become part of the daily lives of the Indonesian people.

Bubur Tangki 18 Wawah Restaurant in Semarang, located at Ruko Sunindo Plaza No. 9, Jl. Pierre Tendean No. 176, Semarang City, recognizes the importance of technology in improving their services. Although they have introduced digital menus, Bubur Tangki 18 Wawah realizes that there are still challenges in their operations. Customers using the digital menu to order must switch to the cashier for payment. Additionally, they also face obstacles in implementing efficient delivery services.

This research will explore the specific case of Bubur Tangki 18 Wawah Restaurant in Semarang with a focus on integrating financial technology and courier services to enhance the functionality of the digital restaurant menu.

II. METHOD

The research methodology employed in this study followed a systematic approach to investigate the integration of financial technology and courier services in enhancing the functionality of digital restaurant menus. Carried out at Bubur Tangki 18 Wawah Semarang in Semarang, Indonesia, the research took place from September 2023 to May 2024.

The research utilized the Waterfall method, a linear sequential lifecycle model ensuring the completion of each phase before progressing to the next [14]. This method was chosen due to its upfront discussion of all requirements, minimal client involvement during development,

and limited allowance for changes throughout the development process.

Qualitative testing was conducted involving the owner and staff of Bubur Tangki 18 Wawah restaurant to evaluate the application's functionality, particularly in payment processing, delivery options, and overall user experience.

Data was primarily sourced from primary sources, including interviews with the owner, and a waitress at the restaurant. The sampling technique involved interviews conducted to gather insights from both staff and management regarding the integration of financial technology and courier services.

III. RESULTS AND DISCUSSION

The development process revealed several challenges faced by Bubur Tangki 18 Wawah restaurant, including inefficiencies in the ordering and delivery processes. Despite the adoption of a digital menu system, customers still had to interact directly with servers for payment, indicating incomplete efficiency in the ordering process. Additionally, the restaurant struggled with efficient delivery operations, with customers opting for WhatsApp orders due to perceived high costs associated with delivery apps.

A. RESULT

Given the need for digital payment integration with the digital restaurant menu, a payment gateway is the appropriate choice for implementation. It not only allows customers to make payments easily and quickly but also offers high transaction security.

By using a payment gateway like Midtrans, the restaurant can accept various digital payment methods such as GoPay, OVO, LinkAja, Dana, and ShopeePay, expanding customer reach and enhancing transaction convenience [15].

During the implementation phase of Midtrans payment gateway integration into the online ordering system, a series of steps

were followed to ensure a smooth payment process.

Customers start the checkout process by pressing the 'confirm order' button on the shopping cart page as seen in figure 1.

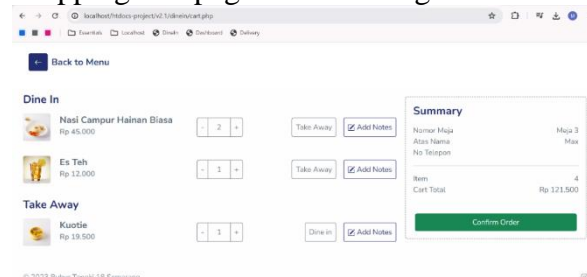


Figure 1. Order Cart

After confirmation, the customer is shown an order summary. The customer then proceeds by pressing 'pay now' to continue payment as seen in figure 2

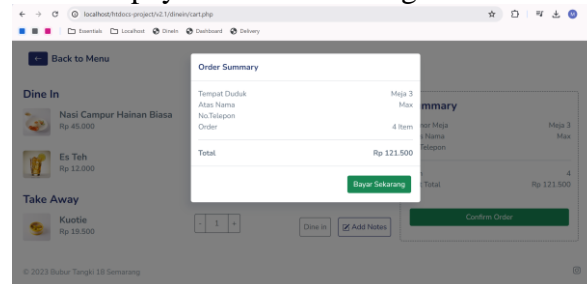


Figure 2. Order Summary

Midtrans Snap integration directs customers to enter the Midtrans platform for payment processing as seen in figure 3.

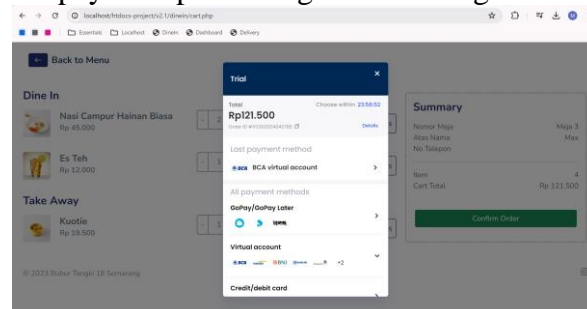


Figure 3. Snap Midtrans

In the Snap Midtrans interface, customers can view the list of products in their order before proceeding with payment as seen in figure 4.

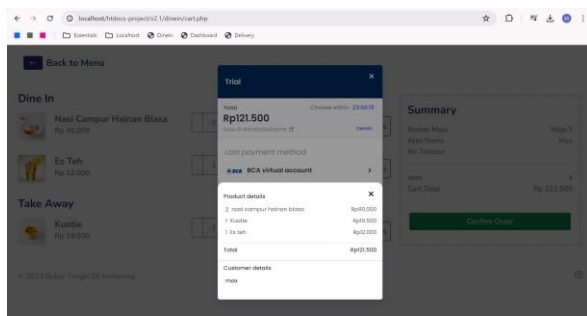


Figure 4 Product Detail in Snap Midtrans

Customers are required to select their preferred payment method from the available options. An example using the BCA Virtual Account payment method is seen in figure 5.

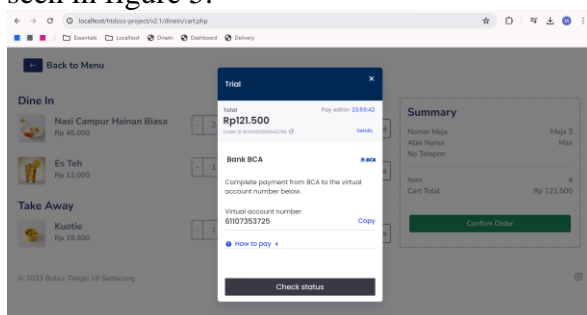


Figure 5. BCA Virtual Account Payment

After successful payment, customers receive confirmation of their transaction, indicating that the payment has been processed as seen in figure 6.

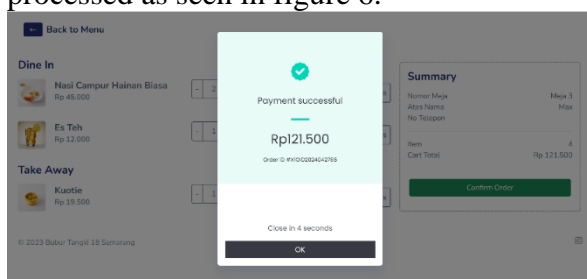


Figure 6. Successful Payment

The status on the online ordering system will be updated automatically to reflect a successful transaction and ensure accurate recording and order fulfillment processes as seen in figure 7.

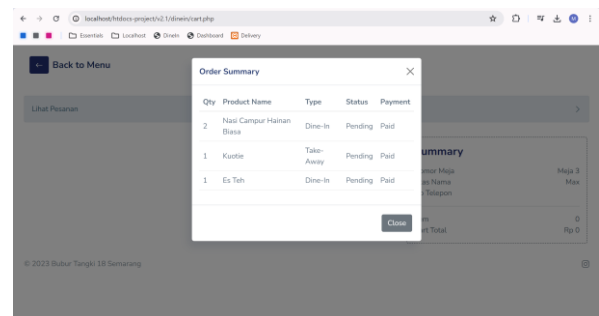


Figure 7. Updated Status

In delivery orders, the same concept will be used for digital payment integration, To facilitate delivery service ordering, buttons will be added to directly access GoSend and Grab applications after successful payment as seen in figure 8.

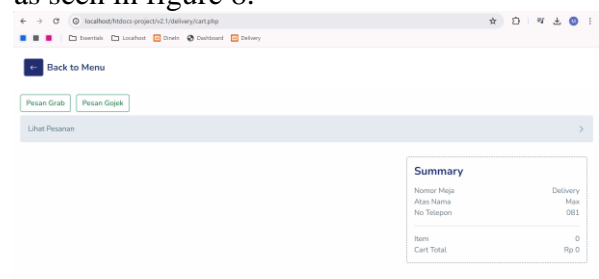


Figure 8. Integration of Delivery Services

When the 'Order Grab' button is clicked, customers will be redirected to the Grab app, specifically the Grab Express page as seen in figure 9.

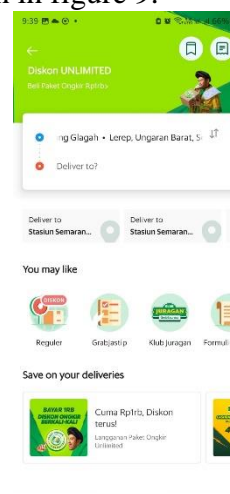


Figure 9. Result of Clicking Order Grab Button

When the 'Order Gojek' button is clicked, customers will be redirected to the Gojek app, specifically the GoSend page as seen in figure 10.

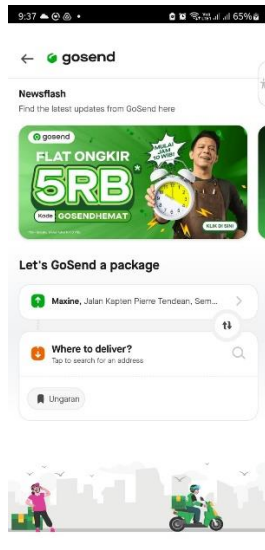


Figure 10. Result of Clicking Order Gojek Button

B. DISCUSSION

This research interview was conducted at the final stage, explaining the results of the research conducted. There were representatives from employees and also the owner of the Bubur Tangki 18 Wawah restaurant, Semarang.

The interviews reveal that the digital application significantly aids in simplifying the restaurant transaction process. Both the owner and the staff acknowledge its effectiveness in reducing queues during ordering and facilitating take-away orders. By allowing direct payments from customers, the application minimizes the need for staff intervention, thereby expediting the transaction process.

One of the key factors contributing to the success of the digital application is its user-friendly interface. According to the feedback provided, the application is intuitive and easy to navigate, particularly for customers aged between 15 to 39 years old. Additionally, the well-designed dashboard provides staff members with a clear overview of incoming orders, further enhancing operational efficiency.

Both the owner and the staff emphasize the importance of a system that is easy to understand for both employees and customers. Through continuous adjustments based on feedback from

various stakeholders, the system has been refined to ensure ease of use and minimal operational challenges. The simplicity of the interface is highlighted as a key factor contributing to the system's user-friendliness.

The implementation of cashless transactions through the digital application is noted to significantly enhance financial reporting processes. By automating transaction recording and minimizing errors, the system ensures transparency in revenue tracking. Both the owner and the staff agree that the system simplifies financial reporting and minimizes the risk of errors or fraudulent activities.

The inclusion of a delivery feature within the application emerges as a valuable addition, allowing customers to order food online and utilize third-party delivery services. This feature not only provides convenience to customers but also enables the restaurant to tap into the growing trend of online food delivery services. Both the owner and the staff recognize the importance of this feature in expanding the restaurant's reach and enhancing customer satisfaction.

IV. CONCLUSION

The payment mechanism through financial technology implemented via the Midtrans Snap API payment gateway has helped enhance the functionality of the Digital Menu at the restaurant Bubur Tangki 18 Wawah Semarang. With the adoption of this financial technology, the payment process has become faster and more accurate, reducing errors in financial calculations, and improving restaurant operational efficiency. Additionally, various digital payment methods are also provided by Midtrans, including e-wallets, card payments, and bank transfers, providing flexibility for customers to choose the payment option that best suits their preferences.

Integration of courier services in the Digital Menu of RM Bubur Tangki Wawah 18 for delivery by adding direct access

buttons to the GoSend and Grab Express applications after successful payment, customers can easily order delivery services without having to leave the Digital Menu platform. This facilitates the online ordering process and provides convenience for customers to enjoy food from the restaurant Bubur Tangki Wawah 18 wherever they are.

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