

A Conceptual Kaleng Business Model: Sustainable Digital Meal Subscription and Reusable Packaging Platform

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DOI: <https://doi.org/10.5281/zenodo.20381547>

Published Date: 25-May-2026

Abstract: This paper aims to develop a conceptual business model called Kaleng, a sustainable smart meal subscription platform supported by a digital mobile application and a reusable lunchbox system. The solution addresses key challenges, pains, gains, and jobs-to-be-done of multiple customer segments, including consumers (students and working adults), food providers, and donors or sponsors. Current food consumption patterns in Malaysia reveal issues such as high daily food costs, unhealthy eating habits, decision fatigue, food waste, and limited transparency in donation channels. These challenges align with national priorities under the Thirteenth Malaysia Plan (13MP), MyDIGITAL, and the National 4IR Policy, which emphasise digital transformation, sustainability, and improved quality of life. This study adopts the Design Thinking (DT) methodology, including literature review, benchmarking using the Business Model Canvas (BMC), and data collection through surveys and interviews. An initial business model is developed using the Environment Map (EM), BMC, and Value Proposition Canvas (VPC), together with a high-fidelity digital platform prototype. The model is then tested and validated with target users and stakeholders. A Strategy Canvas is constructed to compare the validated model with existing industry players. The findings indicate strong demand for a structured meal subscription system that enhances convenience, cost control, and healthy eating while reducing environmental impact. The validated model shows that Kaleng acts as both a pain reliever and gain creator by integrating digital meal planning, reusable packaging, and transparent sponsorship features. This paper contributes by proposing a differentiated, technology-enabled, and sustainability-driven business model aligned with national development agendas. Future work includes developing a full business plan and scaling the platform for wider implementation.

Keywords: Kaleng, Sustainable, Smart Meal Subscription, Food Waste, Urban Communities, Technology, AI, IoT, Blockchain, Food Accessibility.

I. INTRODUCTION

Malaysia's fast-paced urban lifestyle has significantly changed the way people manage their daily meals, especially among university students, working professionals, and busy urban residents. With increasing workload and time constraints, many individuals rely heavily on takeaway food and online food delivery services to fulfil their daily meal needs. While these services provide convenience, they also introduce several challenges related to health, cost, and sustainability. According to recent findings, 54.4% of Malaysian adults are overweight or obese, indicating serious concerns related to unhealthy eating habits and poor diet quality [17]. This shows that convenience-based food consumption does not necessarily support long-term wellbeing.

From a customer perspective, different segments experience different but connected challenges. Consumers, including students and working adults, aim to obtain meals that are convenient, affordable, and consistent on a daily basis. However, they face extreme pains such as long waiting times, high daily food costs, inconsistent food quality, and difficulty maintaining a healthy diet. Many also experience decision fatigue when choosing meals every day. At the same time, they expect essential gains such as convenience, affordability, balanced nutrition, and reliable delivery. Food providers, such as restaurants and small food stalls, aim to maintain stable sales and efficient operations. However, they face issues such as unpredictable demand, unsold food, and high dependency on third-party delivery platforms that charge significant commission fees. These challenges reduce profitability and increase operational pressure. Studies have shown that food waste in Malaysia's food service sector is a growing issue, contributing to both environmental and economic losses [18]. In addition, donors and sponsors, including organisations and corporations, are increasingly interested in supporting sustainability and social initiatives. Their main goal is to contribute to community wellbeing and environmental sustainability, but they often lack structured and transparent platforms to channel their contributions effectively.

Currently, several solutions exist in the market to address food accessibility and convenience. Platforms such as Foodpanda and GrabFood operate using an on-demand delivery business model, where revenue is generated through delivery fees and commission from food providers. These platforms solve the job-to-do of immediate food access and act as pain relievers by reducing the need for physical travel. They also create gains by offering a wide variety of food options and fast delivery services. In addition, meal subscription and cloud kitchen models have emerged, focusing on pre-planned meals and operational efficiency [19].

However, these existing solutions still present several key gaps. Firstly, they mainly focus on on-demand ordering rather than solving the daily decision-making problem, where customers still need to choose meals repeatedly. Secondly, the cumulative cost of ordering food daily, including delivery fees and service charges, makes these services less affordable in the long term. Thirdly, most platforms do not prioritise sustainability, as they rely heavily on single-use plastic packaging, contributing to environmental pollution. From the perspective of food providers, high commission fees reduce profit margins and limit business sustainability. Furthermore, these solutions are not fully aligned with national agendas such as the 13th Malaysia Plan (RMK-13), MyDigital Blueprint, and the National 4IR Policy, which emphasize digital innovation, sustainable practices, and improved quality of life [2].

Therefore, there is a clear need for a more integrated and innovative solution that can effectively address the important job-to-do, reduce extreme pains, and create meaningful gains for all customer segments while aligning with national and global sustainability goals. To address these challenges, this paper proposes a startup company called *Kaleng*, a smart meal subscription platform that integrates convenience, affordability, and sustainability through a mobile application and a reusable lunchbox system.

II. PROBLEM STATEMENT/OBJECTIVES

Kaleng focuses on addressing the daily meal challenges faced by its primary customer segments, which include university students, working professionals, busy urban residents, health-conscious individuals, food providers such as restaurants and food stalls, and donors or sponsors. These groups often struggle to balance convenience, affordability, and healthy eating due to time constraints and lifestyle demands. As a result, many rely on frequent food delivery and ready-to-eat options, which can become repetitive, expensive, and less nutritious [10].

Several key problems can be identified. First, there is a lack of time for individuals to prepare their own meals, leading to heavy dependence on food delivery and ready-made meals [10]. Second, daily food purchasing without meal planning can be costly and inefficient, increasing household food expenditures [12]. Third, many food options offered through delivery services tend to be energy-dense or nutrient-poor, making it difficult for individuals to maintain a balanced diet [10]. Finally, frequent use of single-use plastic packaging in food delivery and takeaway contributes to environmental pollution and growing waste management challenges worldwide [11].

In response to these challenges, Kaleng aims to provide a structured and sustainable solution through a subscription-based meal system supported by a mobile application and a reusable lunchbox concept. The objectives of Kaleng are as follows:

1. To provide a convenient and reliable meal subscription service that reduces the need for daily food ordering and decision-making.
2. To promote healthier eating habits by offering more balanced and consistent meal options to users.
3. To reduce environmental impact by introducing a reusable lunchbox system that minimizes single-use packaging waste.

4. To enhance user experience through a digital platform that enables easy meal management, tracking, and communication.
5. To develop a sustainable and scalable business model that integrates technology, food services, and environmental responsibility in Malaysia.

III. METHODOLOGY

This study adopts the Design Thinking (DT) methodology to develop the Kaleng business model. The approach focuses on understanding customer needs and solving real-world problems through five main stages: empathize, define, ideate, prototype, and test [13]. To support the development process, this study combines literature review, surveys, interviews, and benchmarking. The literature review helps identify trends in food delivery services, subscription models, and sustainability practices, while surveys and interviews collect feedback from potential users. In addition, benchmarking is conducted to compare Kaleng with existing food delivery platforms. Business tools such as the Business Model Canvas (BMC), Value Proposition Canvas (VPC), Business Environment Map (EM), and Strategy Canvas are also used to organize and explain the business structure clearly [14].

In the empathize stage, data is collected from university students, working professionals, busy urban residents, and health-conscious individuals to understand their daily meal challenges. The findings show that customers often face issues such as unhealthy food choices, long waiting times, high costs, and inconvenience in managing meals. In the define stage, the main problem is identified as the lack of a convenient, affordable, and sustainable meal solution.

During the ideate stage, the Kaleng concept is developed as a meal subscription service supported by a mobile application and reusable lunchbox system. The BMC and VPC are used to structure the business idea and ensure the solution matches customer needs. In the prototype stage, a simple application prototype is created with features such as meal subscriptions, meal selection, delivery tracking, and notifications to demonstrate how the service operates.

Finally, in the test and validate stage, feedback is collected through surveys and interviews to evaluate user acceptance. The results show positive responses towards the subscription-based system and reusable lunchboxes due to their convenience and sustainability benefits. Benchmarking with platforms such as Foodpanda and GrabFood also shows that Kaleng provides a unique value by focusing on sustainability, affordability, and long-term convenience. Overall, this methodology ensures that the Kaleng business model is developed based on real customer needs and practical business analysis tools.

IV. LITERATURE REVIEW

A. Digital Economy, 4IR and National Agenda

The Fourth Industrial Revolution (4IR) has introduced significant transformations across industries through the adoption of advanced digital technologies such as artificial intelligence (AI), Internet of Things (IoT) and mobile computing. Schwab [1] states that 4IR is defined by the combination of digital and physical systems, allowing for more intelligent and effective commercial operations. Digital transformation plays a crucial role in improving productivity and fostering innovation in underdeveloped economies.

In Malaysia, the government has introduced initiatives such as MyDIGITAL and the National 4IR Policy to support digital transformation [2], [3]. These plans encourage businesses to use technology, improve productivity and create new innovations. Many industries including the food service industry, are now moving towards digital solutions. Mobile applications are especially important because they allow customers to order food, make payments and track deliveries easily. Studies show that digital platforms improve customer experience and business efficiency [4]. This supports the concept of a mobile application integrated with a tracking system to provide a more efficient, organized, and sustainable food service experience.

B. Food Industry Demand and Supply Analysis

The food service industry has grown quickly due to busy lifestyles and increasing demand for convenience. Many people, especially students and working adults, do not have enough time to cook and prefer to buy ready-made meals. According to Statista [5], more consumers are choosing food services instead of cooking at home. In Malaysia, food delivery platforms such as GrabFood and Foodpanda are very popular. These platforms make it easy for customers to order food anytime using mobile apps. However, they require users to order food every day, which can be tiring and expensive in the long run.

From a business model point of view, these platforms focus on convenience and variety. However, they also have some weaknesses. For example, they do not offer subscription plans, they have high delivery costs and they use a lot of plastic packaging. According to Osterwalder and Pigneur [6], businesses need to balance their costs and revenue to stay sustainable. Many existing food service systems continue to struggle in balancing affordability, convenience, and environmental sustainability. Prior studies have reported persistent issues such as food insecurity, inefficient resource distribution, and food waste, which reduce the overall effectiveness of current service models [27]. In addition, platform-based approaches have been proposed to improve food access while also supporting social welfare and empowering low-income communities [28]. As a result, there is a growing need for more efficient, accessible, and environmentally responsible food service solutions.

C. Benchmark of Similar Business Models

There are different types of food service business models in the market today including online food delivery platforms like GrabFood and Foodpanda are widely used because they are fast and convenient. They also have strong mobile apps and many food options. In terms of Business Model Canvas (BMC), platforms such as Grab Holdings and Foodpanda mainly target urban consumers, working professionals, students and restaurant partners as their customer segments. Their main value propositions focus on fast food delivery, convenience, wide food variety, easy digital payment systems and accessible mobile applications. Their key activities include managing the delivery platform, coordinating riders, maintaining the mobile application, handling customer support and promoting restaurants through digital marketing. Key partners for these platforms include restaurants, delivery riders, payment gateway providers and logistics services. In addition, their revenue streams are mainly generated through delivery fees, commission charges from restaurant partners, advertising services and promotional partnerships. Although these platforms are highly efficient in providing fast and convenient food delivery services, they mainly focus on on-demand transactions and do not strongly emphasize sustainability, reusable packaging systems or long-term meal planning.

Meal subscription services are another type of model. These services provide meals on a regular basis, which helps customers save time and plan their meals better. According to Deloitte [7], subscription models are becoming more popular because they help businesses keep customers for a longer time. However, many of these services do not include tracking features or advanced technologies.

Catering services and central kitchens focus on preparing food in large quantities which helps reduce cost. However, these services usually do not offer personalization or strong digital systems. Overall, there are still gaps in the current market. Most services do not combine subscription, technology and sustainability in one system. Kaleng aims to fill this gap by offering a complete solution that includes all these elements.

D. Socioeconomic Factors and Workforce Development

Malaysia is still facing issues such as unemployment and underemployment, especially among the B40 group. Many people do not have the right skills needed for better job opportunities. The government is encouraging reskilling and upskilling programs to help people adapt to the digital economy [3]. Digital businesses and start-ups can help solve this problem by creating new job opportunities. According to MyDIGITAL [2], digital entrepreneurship is important for economic growth and job creation.

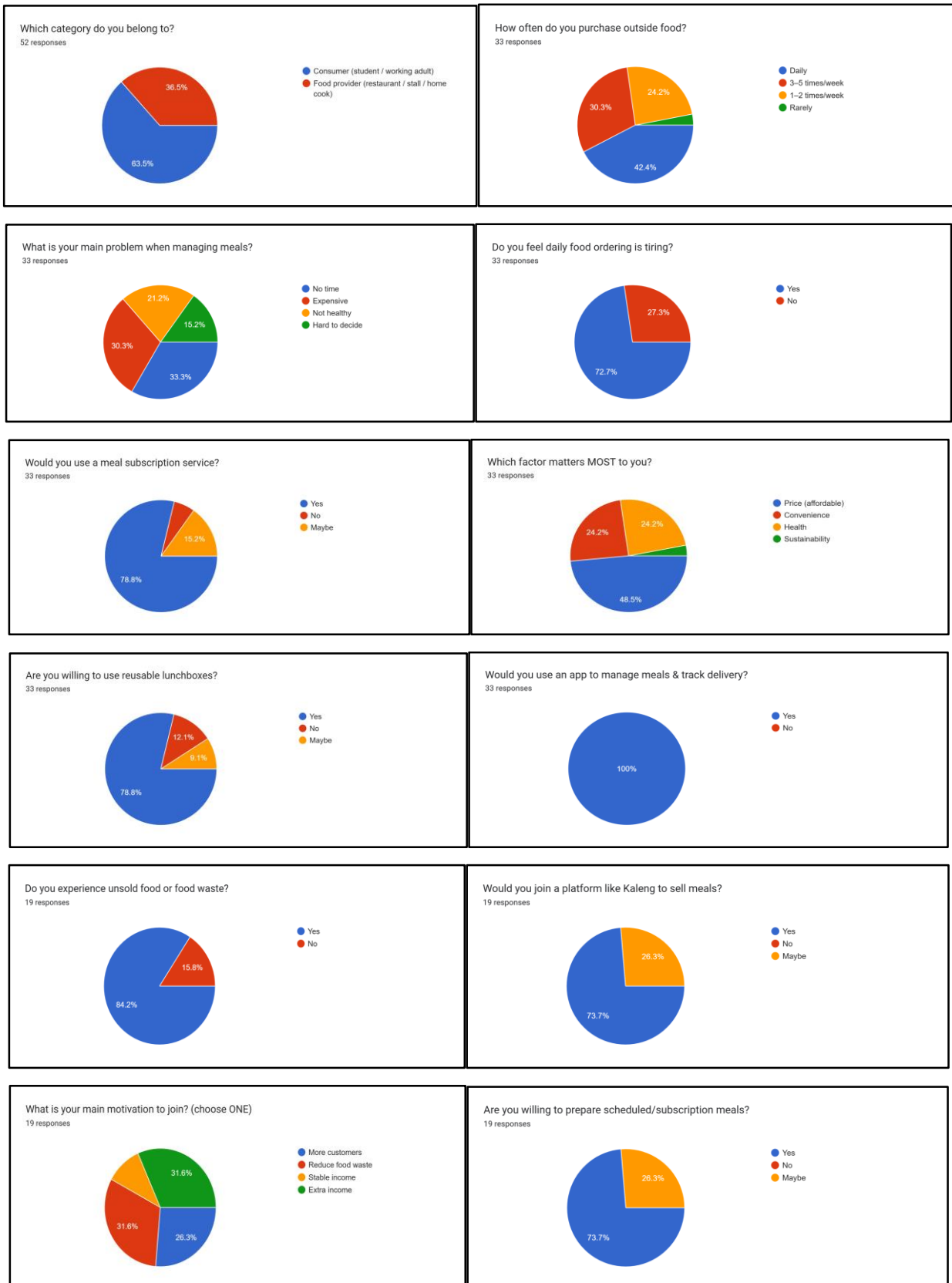
Kaleng can contribute by creating jobs in areas such as cooking, delivery and app management. It can also support small businesses and local suppliers. This helps improve income opportunities for more people. This is also related to global goals such as SDG 4 (Quality Education) and SDG 8 (Decent Work and Economic Growth), which focus on skills development and job creation [8].

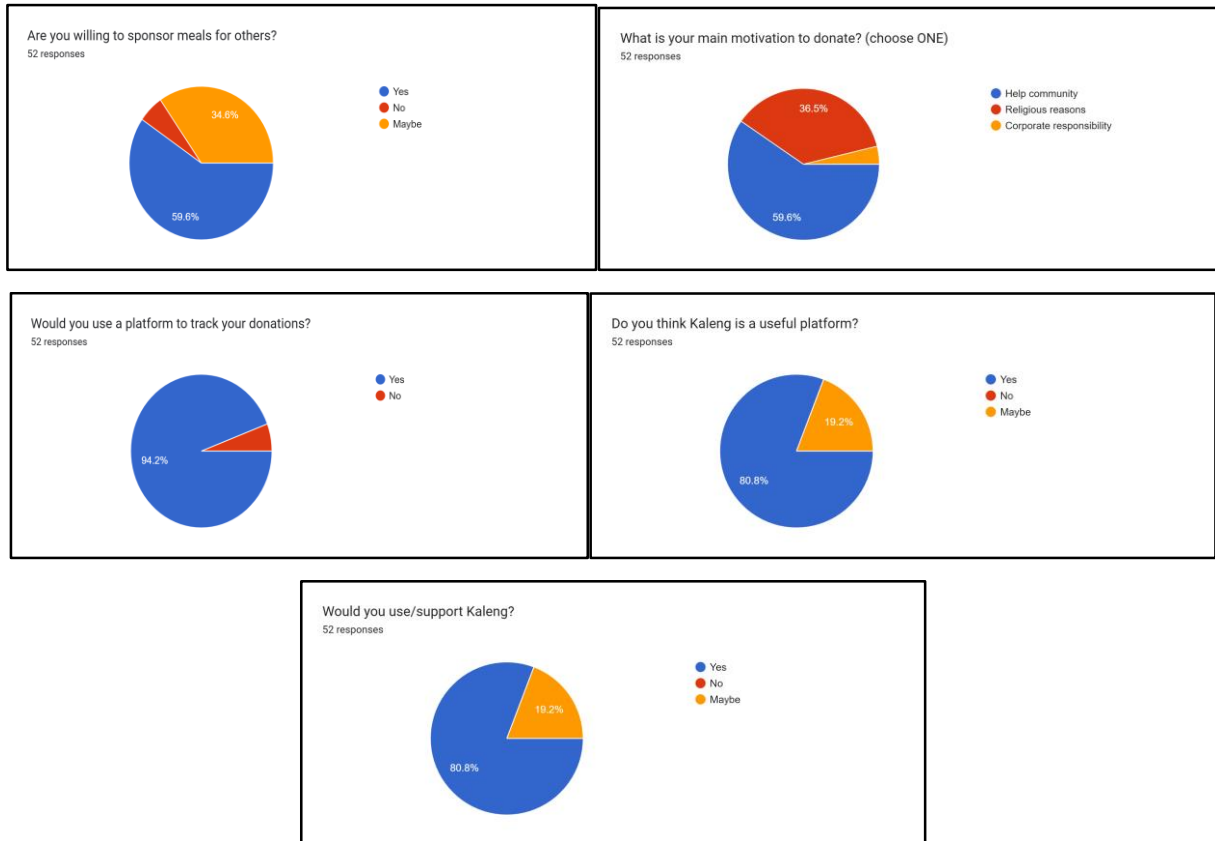
E. Sustainability, Maqasid Shariah and SDGs

Sustainability is an important issue in the food industry, especially because of plastic waste. Many food delivery services use single-use plastic packaging, which harms the environment. According to reports, plastic waste is a major environmental problem today [9]. Kaleng solves this problem by using reusable lunchboxes instead of disposable packaging. This helps reduce waste and supports SDG 12 (Responsible Consumption and Production). It also supports SDG 3 (Good Health and Well-being) by providing healthier meal options [8].

From an Islamic perspective, Kaleng follows the concept of Maqasid Shariah, which focuses on protecting life, wealth and the environment. By offering healthy food, affordable pricing and eco-friendly packaging, Kaleng supports these important values. Overall, Kaleng combines business, technology and sustainability to create a solution that benefits both customers and society.

VI. CONDUCT VALIDATION OF INITIAL BM & KEY FINDINGS





A. SUMMARY OF KEY FINDINGS

The validation process for Kaleng was conducted through surveys and feedback sessions involving potential users such as university students, young adults, working professionals, food providers, and donors or sponsors. The findings show that many consumers have busy daily schedules and limited time to prepare meals, causing them to rely heavily on food delivery services and outside food. However, ordering food every day is often inconvenient, expensive, and stressful due to constant decision-making. As a result, many respondents showed strong interest in a meal subscription system because it helps save time, reduce stress, and better manage food expenses through fixed monthly plans.

The results also indicate that consumers are becoming more aware of healthy eating habits but still face challenges in maintaining a balanced diet due to time constraints and convenience factors. Many respondents preferred consistent and healthier meal options that are easy to access. This creates an opportunity for Kaleng to provide affordable and healthier meals through a convenient subscription-based service. In addition, users responded positively towards the Kaleng mobile application features, especially meal scheduling, easy meal selection, delivery tracking, and notification systems, as these features improve convenience and reliability.

Feedback from food providers such as restaurants and small businesses also showed positive interest in Kaleng. They believe the subscription system can provide more stable and predictable orders compared to normal daily food delivery platforms, allowing them to improve operational planning and reduce food waste. However, some concerns were raised regarding food quality maintenance and preparation schedules. At the same time, donors and sponsors expressed interest in supporting Kaleng due to its focus on sustainability and community support. They emphasized the importance of transparency and preferred features such as meal sponsorship tracking to monitor how contributions are used.

The findings further reveal strong awareness and support for sustainability among respondents. Many consumers are concerned about environmental issues, particularly plastic waste from food packaging, and showed acceptance towards the use of reusable lunchboxes as long as convenience is maintained. Trust and reliability were also identified as important factors for all stakeholders. Consumers expect consistent food quality and on-time delivery, while food providers and sponsors require clear coordination and transparency. Features such as delivery tracking and notifications help strengthen user trust and confidence in the service.

Overall, the validation results highlight a clear market opportunity for Kaleng. Existing food delivery platforms such as Foodpanda and GrabFood mainly focus on fast delivery and food variety, but they do not emphasize meal planning, subscription services, or sustainability. Kaleng addresses these gaps by combining convenience, affordability, healthier meals, and sustainable practices within a single platform. The findings confirm that Kaleng is a relevant and practical solution with strong potential to achieve product-market fit and develop into a scalable and sustainable business model.

VII. VALIDATED BM - BMC FRAMEWORK

A. Validated Business Model Canvas

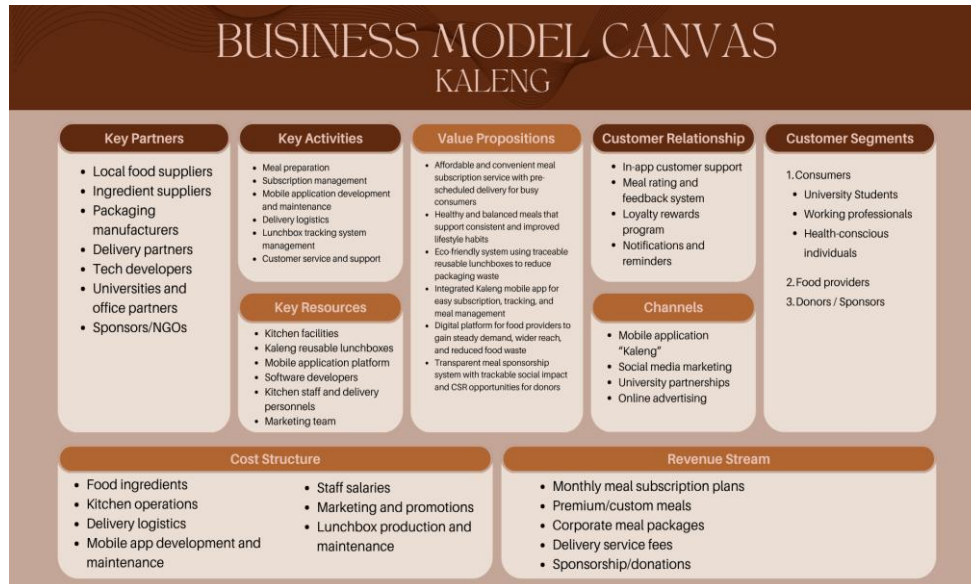


Fig. 1: Business Model Canvas of Kaleng

Kaleng's validated business model canvas consists of 9 elements: customer segments, value propositions, revenue streams, customer relationships, channels, cost structure, key partners, key activities, and key resources.

I. Customer Segments

Kaleng targets three main customer groups which are consumers (university students, working professionals, and health-conscious individuals), food providers (restaurants and small businesses), and donors or sponsors who are interested in supporting social and sustainable initiatives.

II. Value Proposition

Kaleng offers a convenient and affordable meal subscription service with pre-scheduled delivery to save time and reduce daily decision-making. It provides healthy and balanced meals, uses reusable lunchboxes to reduce packaging waste, supports food providers with stable demand, and offers a transparent sponsorship system for donors to track their contributions.

III. Channels

Channels explain how the Kaleng platform markets and reaches out to its customer segments to deliver its value propositions. Channels for Kaleng include the Kaleng mobile app (Android/iOS), social media marketing (Instagram, TikTok, Facebook), university partnerships, and online advertising.

IV. Customer relationship

Kaleng maintains personalized relationships through in-app support, meal rating and feedback system, a loyalty rewards program, and timely notifications for meal delivery and promotions.

V. Revenue Stream

Kaleng generates revenue from monthly subscription plans, premium or customized meals, corporate meal packages, delivery service fees, and sponsorship or donation contributions.

VI. Key Resources

Key resources are kitchen facilities, reusable lunchboxes, the mobile app, software developers, marketing team, and kitchen and delivery staff.

VII. Key Activities

The key activities for Kaleng are developing and maintaining the mobile app, meal preparation, subscription management, delivery logistics, lunchbox tracking, and customer support.

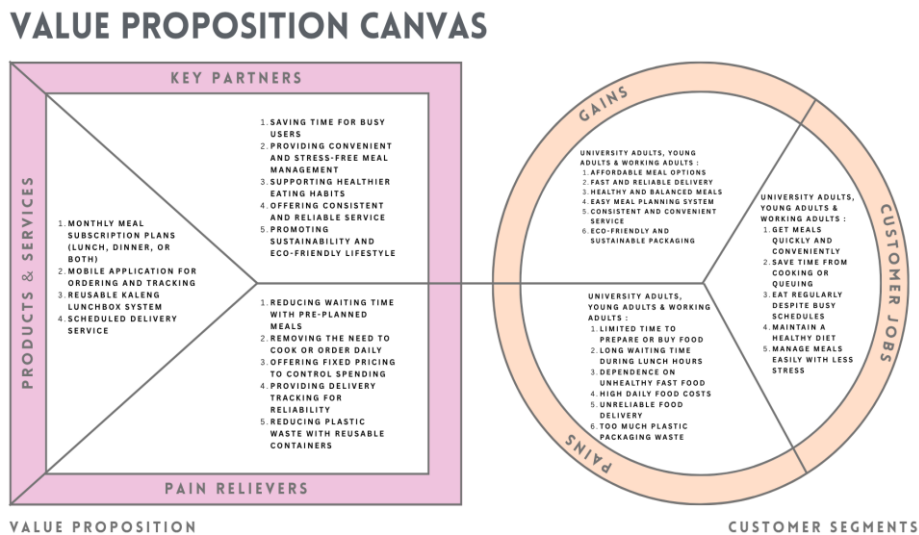
VIII. Key Partners

Kaleng collaborates with local food suppliers, ingredient suppliers, packaging manufacturers, delivery partners, universities, office partners, and NGOs or sponsors to ensure smooth operations and wider reach.

IX. Cost Structure

Cost structure costs incurred to operationalise Kaleng business model. The cost structures include food ingredients, kitchen operations, logistics, app maintenance, staff salaries, marketing, and lunchbox production and maintenance.

B. Validated Value Proposition Canvas (VPC)



I. Customer Jobs

The main customers (university students, young adults, and working professionals) want to get meals quickly and conveniently in their daily lives. They aim to save time from cooking or queuing, eat regularly even with busy schedules, maintain a healthy diet, and manage their meals easily with less stress.

II. Pains

Customers face several problems in their daily routine. They have limited time to prepare food, experience long waiting times during peak hours, and depend heavily on unhealthy fast food. In addition, daily food expenses are high, delivery services are sometimes unreliable, and there is too much plastic waste from food packaging.

III. Gains

Customers expect affordable meal options that fit their budget, fast and reliable delivery, and access to healthy and balanced meals. They also want an easy meal planning system, consistent service, and eco-friendly solutions that support a more sustainable lifestyle.

IV. Products & Services

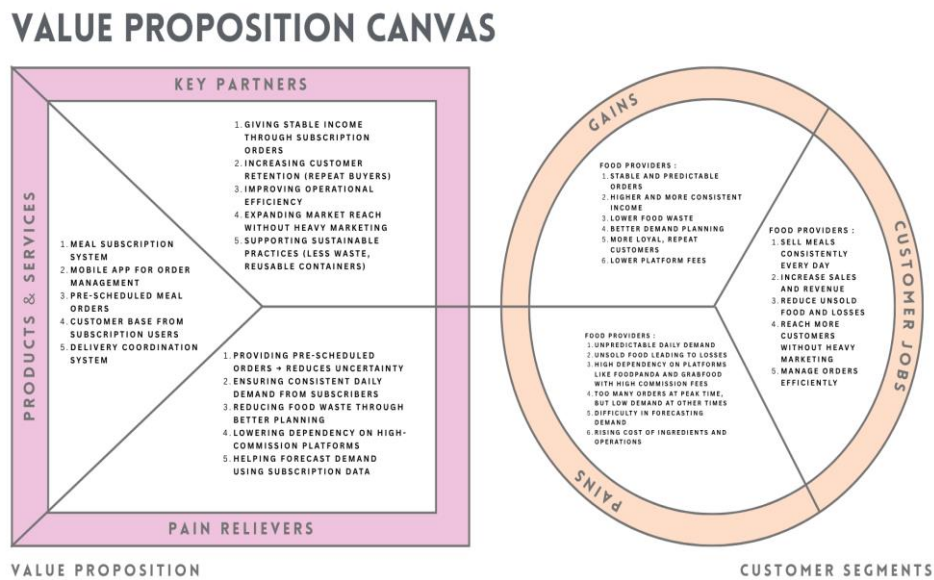
Kaleng offers monthly meal subscription plans for lunch, dinner, or both. It provides a mobile application for ordering and tracking, a reusable lunchbox system, and a scheduled delivery service to ensure meals arrive on time.

V.Pain Relievers

Kaleng reduces customer problems by offering pre-planned meals that shorten waiting time and remove the need to cook or order daily. Fixed pricing helps users control their spending, while delivery tracking improves reliability. The use of reusable containers also helps reduce plastic waste.

VI.Key Partners

Kaleng works with partners such as food suppliers, delivery partners, packaging providers, and technology developers to ensure smooth operations, consistent food quality, and reliable service delivery.



I.Customer Jobs

Food providers such as restaurants and small food businesses want to sell meals consistently every day. They aim to increase their sales and revenue, reduce unsold food, reach more customers without heavy marketing, and manage orders efficiently in their daily operations.

II.Pains

Food providers face several operational challenges. Daily demand is unpredictable, which leads to unsold food and financial losses. They also depend heavily on delivery platforms that charge high commission fees. In addition, they experience too many orders during peak hours and too few during off-peak times. It is also difficult for them to forecast demand, and rising costs of ingredients and operations increase their burden.

III.Gains

Food providers expect stable and predictable orders, higher and more consistent income, and reduced food waste. They also want better demand planning, more loyal and repeat customers, and lower platform costs so they can improve their overall business performance.

IV.Products & Services

Kaleng offers a meal subscription system that provides pre-scheduled orders from customers. It also includes a mobile platform for order management, a stable customer base from subscription users, and a delivery coordination system to support smooth operations.

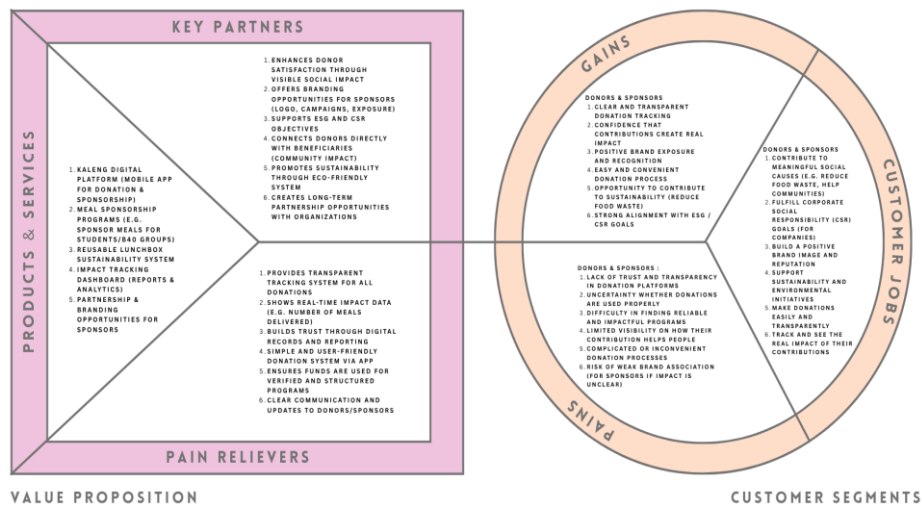
V.Pain Relievers

Kaleng reduces uncertainty by providing pre-scheduled and consistent orders. It ensures steady daily demand through subscriptions, which helps food providers plan their production better. The system also reduces food waste, lowers dependency on high-commission platforms, and supports demand forecasting using subscription data.

VI. Key Partners

Kaleng collaborates with food suppliers, kitchen operators, delivery partners, packaging providers, and platform developers to ensure smooth operations, maintain food quality, and deliver consistent and reliable service to customers.

VALUE PROPOSITION CANVAS



I. Customer Jobs

Donors and sponsors want to contribute to meaningful social causes such as reducing food waste and helping communities. They aim to fulfil corporate social responsibility (CSR) goals, build a positive brand image, support sustainability initiatives, and make donations easily while being able to track the real impact of their contributions.

II. Pains

Donors and sponsors face several challenges when making contributions. There is often a lack of trust and transparency in donation platforms, and uncertainty about whether their donations are used properly. They also find it difficult to identify reliable and impactful programs. In addition, there is limited visibility on how their contributions help others, donation processes can be inconvenient, and sponsors may face risks if the impact is unclear.

III. Gains

Donors and sponsors expect clear and transparent donation tracking, confidence that their contributions create real impact, and positive brand exposure and recognition. They also want a convenient donation process, opportunities to support sustainability initiatives, and strong alignment with ESG and CSR goals.

IV. Products & Services

Kaleng provides a digital platform (mobile app) for donations and sponsorships. It offers structured meal sponsorship programs, a reusable lunchbox sustainability system, impact tracking dashboards with reports and analytics, and partnership and branding opportunities for sponsors.

V. Pain Relievers

Kaleng reduces donor concerns by providing a transparent tracking system for all donations. It shows real-time impact data such as the number of meals delivered, builds trust through digital records and reporting, and ensures that funds are used for verified and structured programs. The platform also offers a simple and user-friendly donation process with clear communication and updates.

VI. Key Partners

Kaleng collaborates with NGOs, corporate sponsors, food providers, logistics partners, and technology developers to ensure proper fund distribution, program implementation, impact tracking, and smooth platform operations.

C. Environment Map (EM)

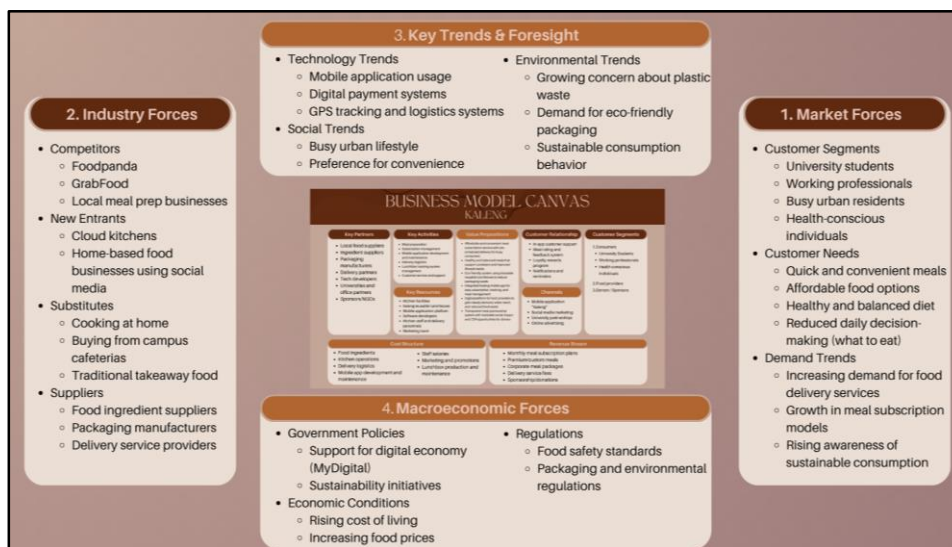


Fig. 1: Environment Map of Kaleng

Figure 1 presents the business environment map for Kaleng, which includes market forces, industry forces, key trends, and macroeconomic forces.

I. Market Forces

The Malaysian food delivery and ready-to-eat meal market has expanded significantly due to urbanisation, digital platform adoption, and increasingly busy lifestyles among students and working adults [20]. Many consumers now depend on food delivery services as part of their daily routine because of limited time for cooking and meal planning. However, existing consumption patterns show several consistent problems. Users often experience high cumulative food costs, lack of structured meal planning, and inconsistent dietary habits. Many also report decision fatigue when choosing what to eat daily, especially when using multiple delivery platforms. Based on Kaleng’s validation survey, most respondents highlighted that daily food ordering feels expensive, repetitive, and mentally tiring. This clearly shows a demand for a more structured and predictable system. Therefore, Kaleng responds to this market gap by offering a meal subscription model that improves cost control, reduces daily decision-making, and supports healthier eating habits.

II. Industry Forces

The Malaysian food delivery industry is highly competitive and dominated by platforms such as GrabFood and Foodpanda. These platforms mainly operate under an on-demand marketplace model, where value is created through speed, discounts, and wide restaurant variety [21], [22]. While these platforms are strong in convenience, they are not designed for long-term meal planning. Their structure encourages daily ordering behaviour, which can contribute to higher food spending and less dietary control among urban consumers [23]. In addition, the reliance on single-use plastic packaging in food delivery services has raised sustainability concerns in Malaysia, especially in urban areas where food delivery usage is highest [24], [25]. Smaller players such as home-based meal providers and meal-prep sellers exist, but they are often fragmented and operate without integrated digital systems for subscription management, tracking, or customer experience optimization [26]. This creates a clear industry gap: there is currently no fully integrated platform in Malaysia that combines subscription-based meal planning, digital management systems, and sustainable packaging solutions within a single ecosystem [23], [24]. Kaleng positions itself in this gap by focusing on structured consumption rather than transaction-based food delivery.

III. Key Trends

Malaysia is undergoing rapid digital transformation under national frameworks such as the Malaysia Digital Economy Blueprint (MyDIGITAL) and the National 4IR Policy, which aim to accelerate digital adoption, innovation, and data-driven business models across industries [2][16]. These policies support the growth of platform-based businesses, mobile applications, and digital services that improve efficiency and user experience. The food and lifestyle sector is one of the key areas impacted by this transformation, as consumers increasingly rely on mobile apps for daily needs such as food ordering and delivery. At the same time, Malaysia’s National 4IR Policy promotes the integration of smart technologies,

automation, and data systems to improve service delivery and business efficiency [16]. This creates a supportive environment for startups like Kaleng that rely on digital platforms and logistics coordination. In addition, there is a growing societal trend toward health consciousness and environmental awareness. Consumers are becoming more aware of food quality, nutrition, and sustainability issues such as plastic waste from packaging. However, despite these trends, there is still a lack of integrated solutions that combine convenience, health, affordability, and sustainability in one platform. Kaleng aligns directly with these emerging trends through its subscription-based model, digital meal planning features, and reusable lunchbox system.

IV. Macroeconomic Forces

Malaysia is currently facing rising living costs, especially in essential areas such as food, transportation, and housing. Food inflation directly affects daily spending patterns, particularly among students and urban working adults who rely heavily on external food sources. The Thirteenth Malaysia Plan (13MP) highlights the need to improve household wellbeing, strengthen food security, and promote sustainable consumption patterns as part of Malaysia’s long-term development goals [3]. It also emphasises economic restructuring through digitalisation and high-value service innovation. In addition, the 13MP strongly supports the development of green and circular economy practices, which include reducing waste and improving resource efficiency [3]. This directly aligns with Kaleng’s reusable lunchbox system, which reduces dependency on single-use plastic packaging. Furthermore, national entrepreneurship policies such as NEP 2030 encourage innovation-driven SMEs and platform-based business models that improve efficiency and create new market solutions [15]. Kaleng fits into this direction by combining digital technology, sustainability, and service innovation. Overall, these macroeconomic and policy directions create a strong supportive environment for Kaleng as a scalable and socially responsible business model.

D. Strategy Canvas

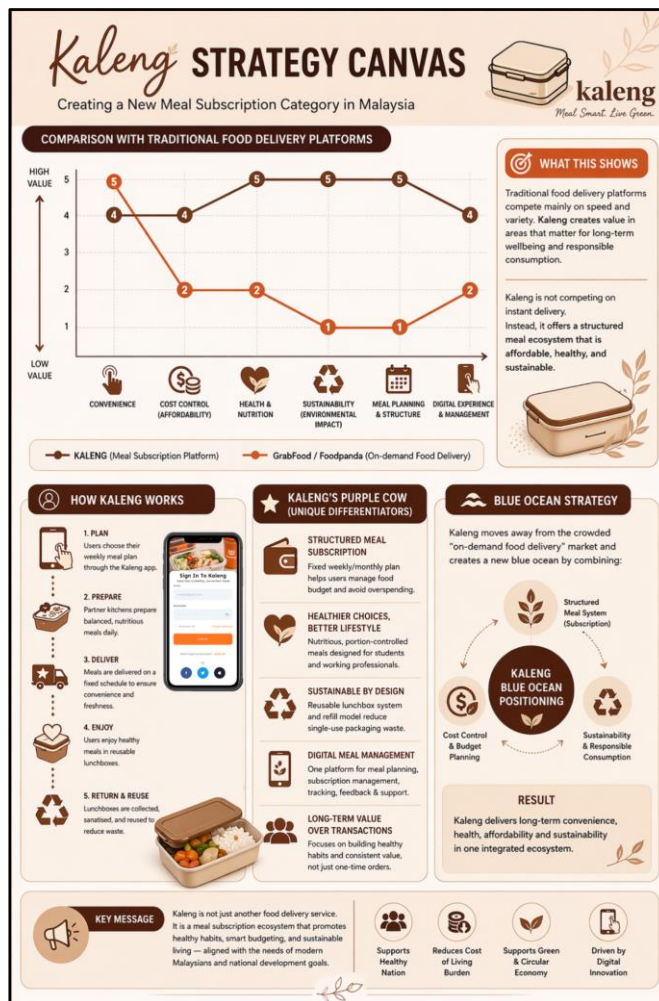
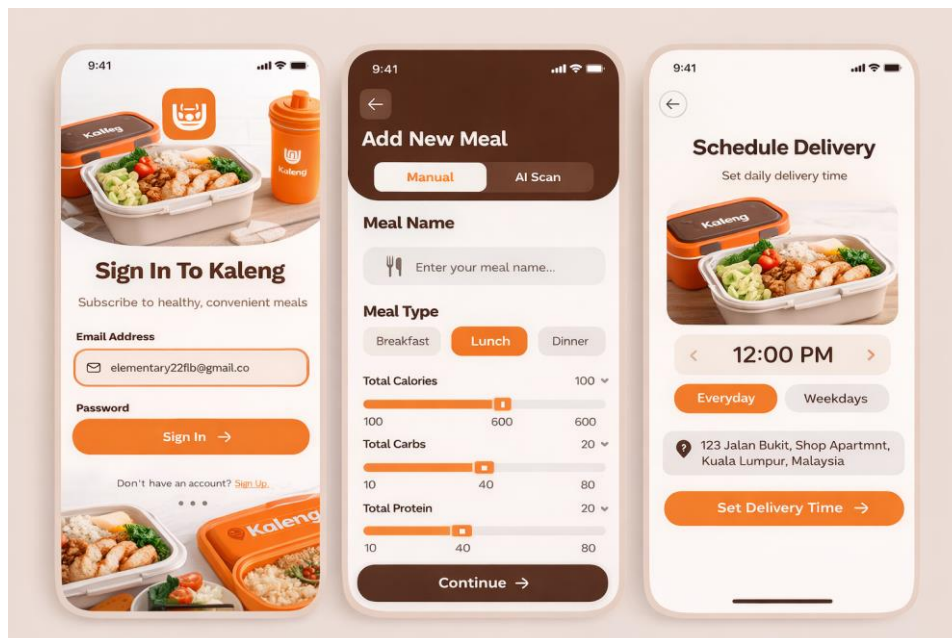


Fig. 2: Strategy Canvas Comparing Kaleng and Foodpanda Across Key Competitive Factors

Figure 2 presents the strategy canvas comparing Kaleng with existing on-demand food delivery platforms such as Foodpanda and GrabFood across key value factors, including convenience, cost control, health and nutrition, sustainability, meal planning, and digital experience. From the comparison, it can be observed that traditional food delivery platforms perform very strongly in convenience and digital experience due to their fast, on-demand service and well-established applications. However, they score significantly lower in areas such as cost control, health, sustainability, and meal planning, as their model mainly focuses on one-time transactions, unstructured food choices, and heavy reliance on single-use packaging. In contrast, Kaleng creates higher value in cost predictability, health and nutrition, sustainability, and structured meal planning through its subscription-based model. Instead of encouraging daily ordering, Kaleng simplifies users' routines by providing pre-planned meals, helping them manage their food budget, maintain healthier eating habits, and reduce decision fatigue. The reusable lunchbox system further strengthens its sustainability value by minimizing packaging waste. Although Kaleng may offer slightly lower flexibility in instant convenience compared to on-demand platforms, it delivers stronger long-term value through a more organised and consistent food consumption system. Overall, the strategy canvas shows that Kaleng is not directly competing within the existing food delivery market but is instead creating a new value curve. By shifting the focus from speed and variety to structure, affordability, health, and sustainability, Kaleng demonstrates a clear Blue Ocean Strategy and positions itself as a differentiated solution that better addresses the long-term needs of its target customers.

E. Mock-up/Prototype digital platform/app



<https://www.figma.com/design/g1o2e2toyvUb4TaAEUERc/Food-Delivery-App--Community-?node-id=0-1&t=nIDv68tVqwl5oQQ-1>

The figure above shows the mockup for Kaleng. The application provides a service that helps customers manage their meal subscriptions and schedule deliveries. The first page is the sign-in page, where new customers can register and log into the system. The second page allows customers to add and customize meals, selecting meal types for example breakfast, lunch, dinner and inputting nutritional details such as calories, carbs, and protein for personalized meal planning. The third page is where customers can schedule their meal deliveries, setting a preferred delivery time and frequency like daily and weekdays to ensure meals are delivered at their convenience.

VIII. CONCLUSION AND FUTURE WORKS

This study identified key challenges faced by urban communities in Malaysia related to daily food consumption, including high food costs, unhealthy eating habits, decision fatigue, and environmental issues caused by single-use packaging. Existing food delivery platforms mainly focus on convenience and speed, but they do not effectively support long-term meal planning, cost control, or sustainability. To address these gaps, this paper proposed Kaleng, a sustainable smart meal subscription platform supported by a mobile application and a reusable lunchbox system. The solution is designed to provide structured meal planning, improve affordability, promote healthier eating habits, and reduce environmental impact. Based

on the validation results, there is strong interest from users, food providers, and donors. Users prefer a subscription-based system that saves time and reduces daily decision-making, while food providers benefit from more stable and predictable demand. The reusable lunchbox concept is also positively received as a practical way to reduce plastic waste.

Overall, Kaleng demonstrates a practical and relevant business model that aligns with current market needs and national priorities related to digital innovation and sustainability. It creates value by combining convenience, cost control, health, and environmental responsibility in one integrated system. For future work, the development of the Kaleng platform can be expanded by improving the mobile application features, strengthening delivery and logistics coordination, and enhancing the reusable lunchbox tracking system. Further testing with a larger group of users is also needed to refine the service and ensure scalability. In the long term, Kaleng has the potential to grow into a widely adopted platform that supports more sustainable and organised food consumption in urban Malaysia.

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