



**Business Development Plan for Self-Ordering System for
Beijing ZBXY Cultural Development Company**

MEM Project Report

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Executive Summary

Beijing ZHIBOXUANYU Culture Development Company (hereinafter referred to as the sponsor) has successfully provided digital solutions for thousands of business owners in the hospitality industry in China. The student is sponsored by the sponsor to conduct a business development plan for a new product to launch in the New Zealand market.

After reviewing and comparing the existing products and services that the sponsor currently has to offer, the SaaS (Software as a service) product is selected for this project. The new product offers three user ends combined with QR code technology to accomplish the goal of improving the ordering process for restaurants.

The market plan and the client requirement specification for the new product are the two major components of this project. The software requirement specification is conducted for a potential contractor. Although a few changes are yet to be determined throughout the development and launching of the new product on independent platforms, the client requirement illustrates the desired characters of the new product at the current stage.

The market plan is based on information collected from data and surveys carried out by the student, and marketing strategies are established as guidelines. The pivot point of the market plan is to validate hypothesises about launching the new product in the New Zealand market in the fastest manner with minimum cost. Cashflow projections are conducted based on a series of elaborated assumptions, and three scenarios are listed for guideline financial return guidelines.

Combining results from analysis in market share estimation, investment return period and risks, it is unrealistic that the business can reach the break-even point within two years. As a result, the sponsor is recommended to spend more efforts on gaining more customers and brand reputation in Australia before considering moving into New Zealand market.

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1. Introduction

The sponsor's company was founded in 2010 in Beijing. In 2013, due to the cashless movement in China, the company repositioned their business and steered into IT solution for the hospitality industry. Since then, the company has helped over 600 restaurant owners with intellect catering solutions including providing smart hardware's, open platform, SaaS services and big data value-added services.

In 2018, Chinese corporate giants, such as Alibaba and Tencent, started to get involved in data-driven services for a variety of industries. As a strategic reaction to the increasingly complete market in China, the sponsor established their first overseas branch in Canberra, Australia. However, although consistent investments have been made into the Australian market, the niche market for existing products and services of the sponsor has been difficult to locate. Therefore, the sponsor decided to look for a test market where its population is demographically similar to the target market. New Zealand was then chosen by the sponsor to launch the proposed new product.

In this project, the student is appointed by the sponsor to carry out a business development plan to enter the New Zealand market. The scope of the project is a marketing plan as well as a client specification requirement at the designing stage of the new product.

The purpose of the marketing plan in this project is to provide adequate information and recommendations for the shareholders of the sponsor to evaluate their decisions of entering the New Zealand market. The purpose of the client specification requirement in this project is to produce a contractual component in the contractor selection stage.

2. Background

2.1 Trend of Self-ordering

Fast-food giant McDonald's first introduced kiosk ordering machines in the US in 2015. Although it has been questioned that the real purpose was to react to the minimum wage raises, McDonald's chose a smart approach through customisation. They advertised that the main function of kiosks was to give everybody the opportunity and joy to make their own burgers. This turned out to be a success for McDonald's, as these machines enabled the company to maintain or even reduce their labour cost in the minimum wages raising wave across the US, and their sales have been increasing over time.

2.2 Trend of Mobile Payment

While kiosk towers are suitable for fast-food giants, other devices are also seen in use across Asia. Tablets, vendor machines and even customers' own cell phones are used by contemporary casual restaurants for food ordering. Mobile ordering has been rapidly taking over the self-ordering market share with the overwhelming mobile payment movement. According to research data from iResearch (iResearch, 2017), in the past decade, mobile payment has gained 81.7% in its rival with Internet payment. Mobile ordering is considered to be inspired by the concept of BYOD, as every customer would bring their phone with them when visiting restaurants.

Similarly, in New Zealand, although mobile payment has not emerged in the public sight, a study from PaymentNZ (Figure 2) (PaymentNZ, 2018) shows that there was a growing trend in contactless payments over the year. This builds the foundation of the market for the new product in this project.

2.3 New Zealand Food Service Industry

According to Stats NZ, New Zealanders are spending relatively more on restaurants meals and takeaways, and less on grocery items, which might be a reflection in

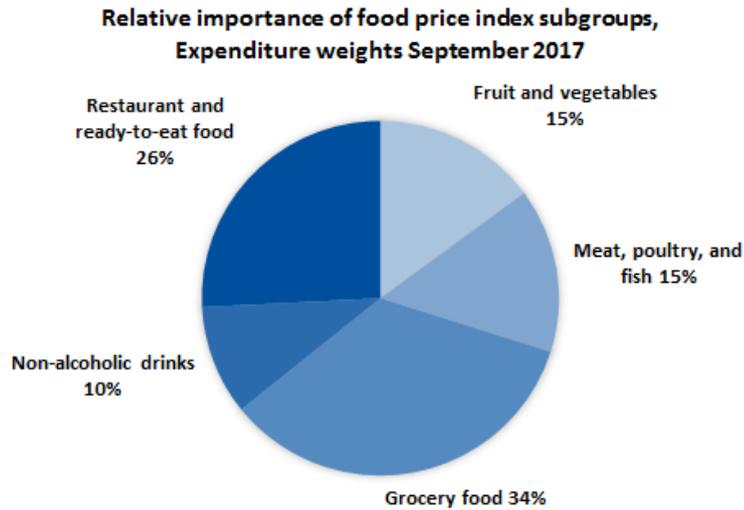


Figure 1 New Zealand food expenditure weights in 2017

changes to New Zealand's food price index (NZ, 2017). Below is a depiction of food spending percentage.

According to the survey statics provided by the Restaurant Association of New Zealand, there were 17,328 hospitality outlets established by the end of February 2018.

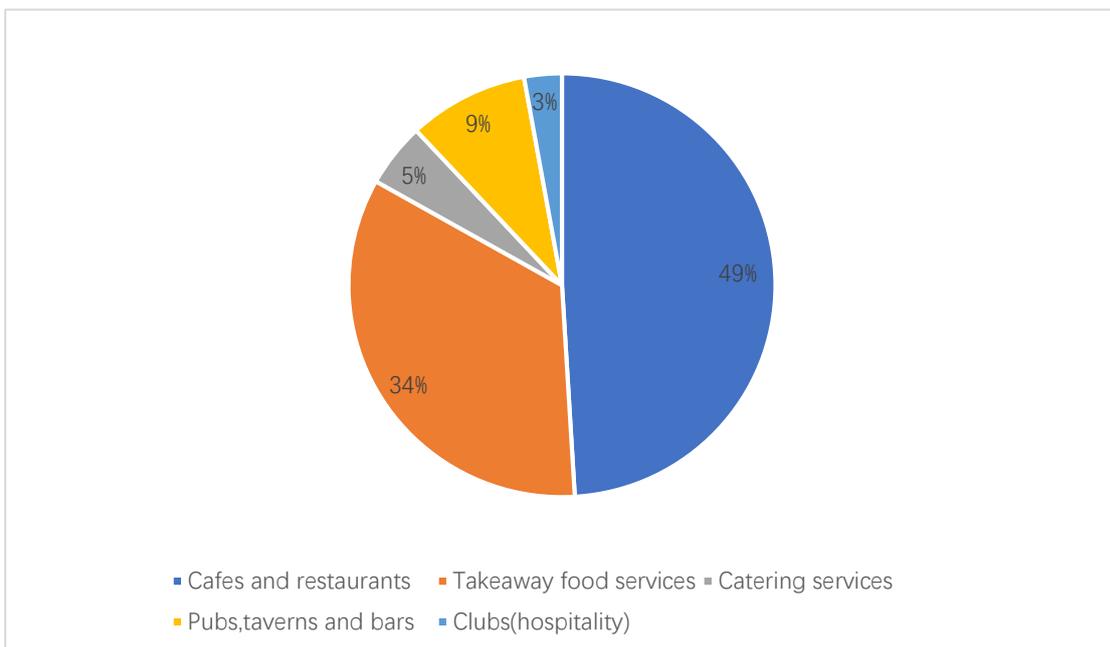


Figure 2 Number of Hospitality Outlets by Sector Market Share in New Zealand (2018)

As depicted in Fig.1, nearly half of the total number of outlets were cafes and restaurants.

Takeaways have also shown the highest annual growth rate in number by 4.3% while cafes and restaurants rank second at 3.5%. Auckland and Canterbury combine to take over half of the total outlet number by 51.4%, and this number has been growing consistently in recent years.

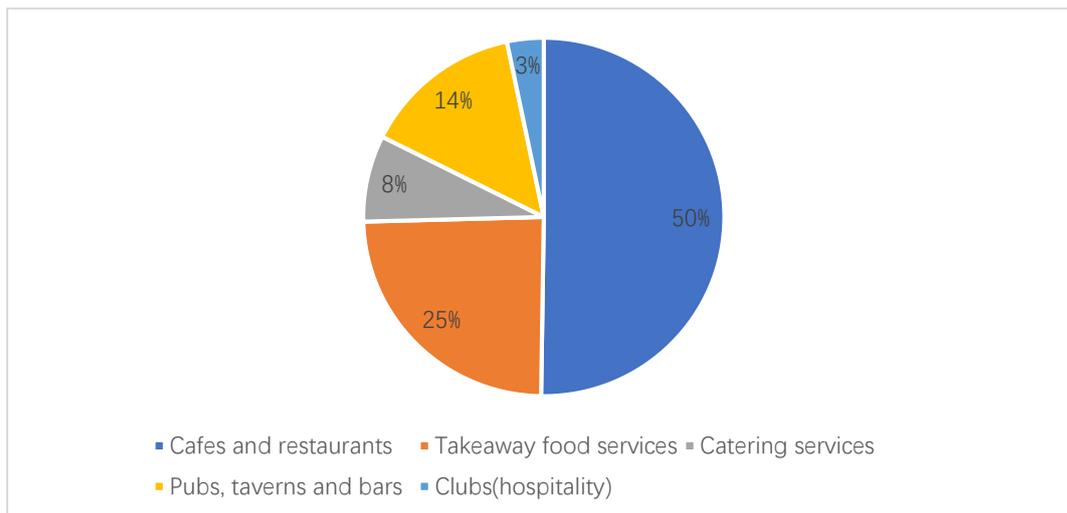


Figure 3 New Zealand Hospitality Industry Sales by Sector Market Share (2018)

2017 was a record-breaking year where the annual industry sales first broke \$10 billion, suggesting an average weekly spending of \$36.4 per person on. A steady growth in the New Zealand national hospitality industry annual sales has been seen in the last decade until a major brake in 2018 where it dropped from 9.7% to 3.6%. Although this growth rate was affected by many factors from population, tourism, government policies and general economy growth, according to members from Restaurant Association of New Zealand, the main reason of downswing of business confidence in this sector was the current uncertainty around the impact of the raft of Food Act legislation changes proposed.

2.4 Labour Costs and Minimum Wage

Over the past 5 years, managing wage costs has been listed as one of the top three key challenges for New Zealand hospitality business owners by Restaurant Association of New Zealand. New Zealand has one of the highest minimum wage rates relative to average income amongst OECD countries (Dr Bill Cochrane, 2018). The

intention of improving the well-being of lowest-paid workers, however, may come at the expense of domestic business profits.

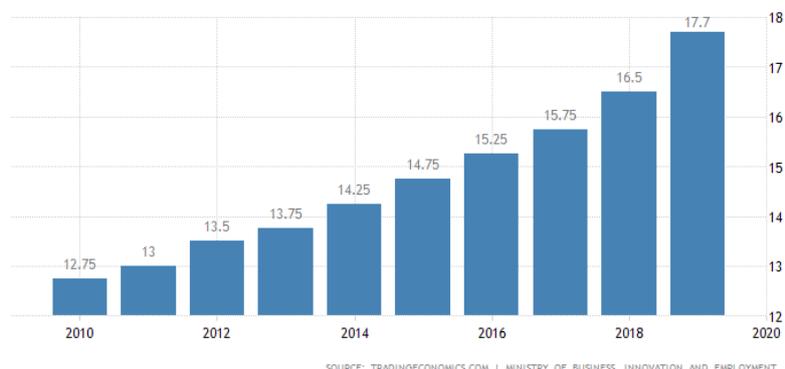


Table 1 New Zealand Gross Minimum Hourly Wage 2010-2019 Data

The hospitality industry is less able to alleviate labour cost increases by means such as automation in comparison to other industries. New Zealand government aimed to lift minimum wage by nearly 6% per year and achieve \$20 per hour by April 2021. Small business owners in hospitality industry are facing growing pressure from labour cost as a result.

3. Product

3.1 Internal Analysis

Since the establishment of the Australian branch, it has been a struggle for the sponsor to position their product in the market. There are mainly two reasons:

Firstly, when competing in large quantity orders with international hardware, the sponsor has very little advantage in price, as Chinese manufacturers had been directly channelled to export their products. Such quantity of orders often gives those suppliers an unfair advantage when it comes to machine customisation cost.

Secondly, for existing restaurants owners, switching to a new set of ordering and cashier system often means abandoning the entire package of the previous system and paying for a new one. This also means additional cost on staff training on top of

the procurement cost. This is beyond the budget for most targeted restaurant businesses.

Upon weighing costs and risk levels of introducing existing products and services from the sponsor to New Zealand market, mobile ordering SaaS is ideal to be used as the gateway for the sponsor to explore further possibilities in the New Zealand market. Below is a horizontal comparison across available market candidates.

Product	Minimum Initial Investment	Estimated Payback Period	Marketing Competition
Kiosk Machines & Accessories	\$800,000	18-36 months (Highly dependent on large quantity orders)	Domestically none, however major fast-food franchises made their orders from overseas.
Smart POS devices package	\$350,000	12-18 months	Around 8 major retailers of such devices
Self-ordering SaaS	\$200,000	8-12 months	Domestically 2 suppliers found, however only Alipay ¹ users can use their services

Table 2 Comparison between product options

Cash flow statement from the sponsor's Australia branch is used as a reference to decide the minimum initial investment and payback period, which are shown above. Overall, the retailing of hardware devices packages requires a much higher initial investment due to the overhead expenses related to storage, labour and taxes.

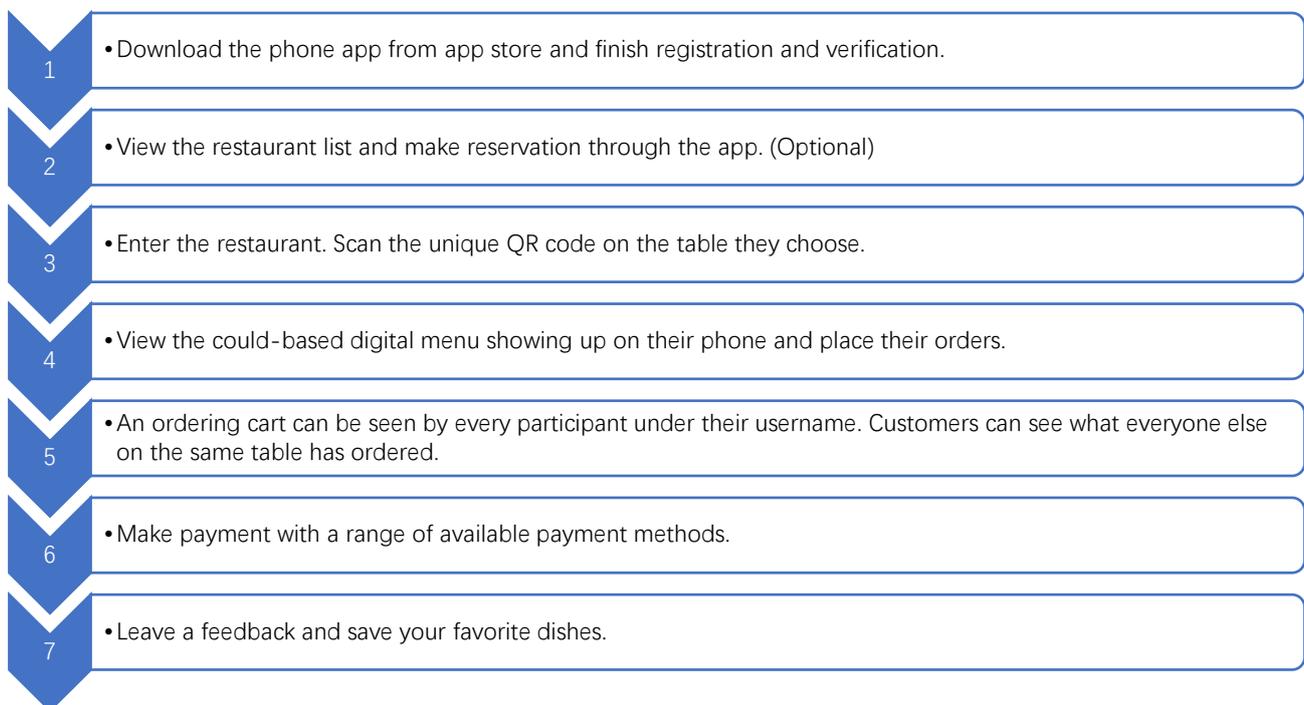
¹ Alipay is the most widely used third-party service provider with over 150 million daily transaction and over 600 million active users in China. See <https://intl.alipay.com>

3.2 Product Description

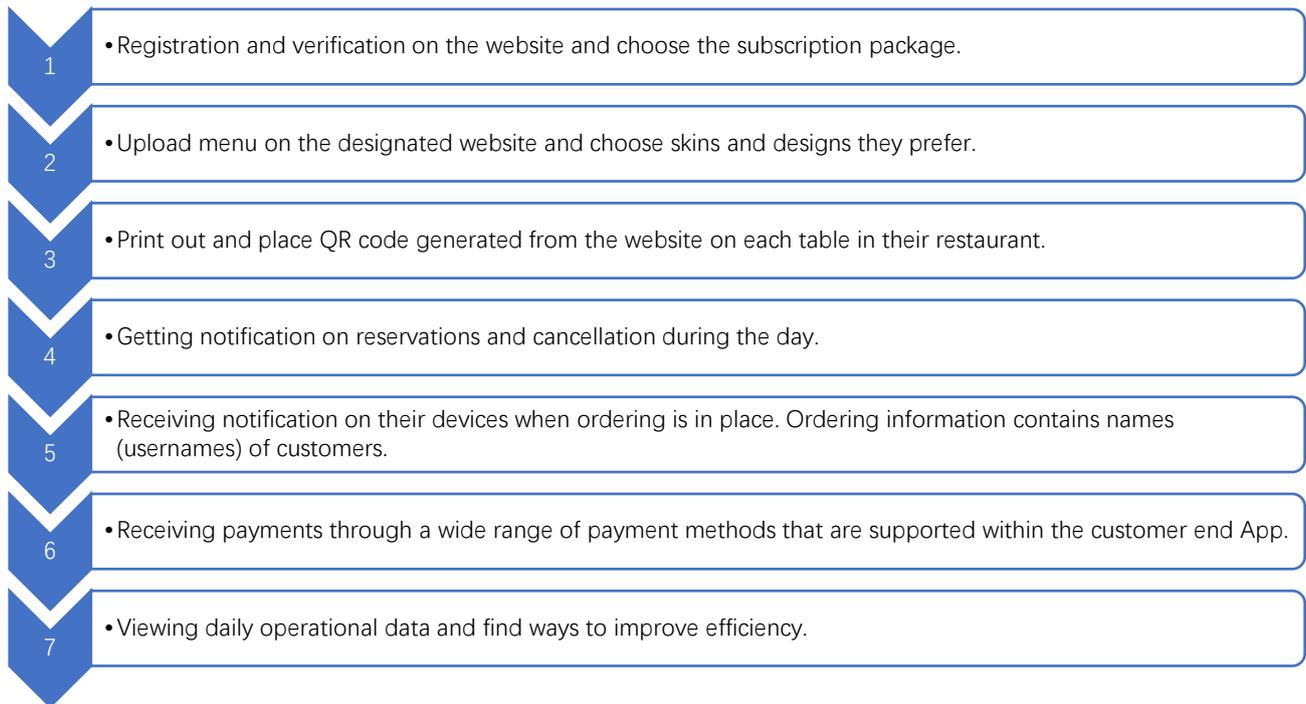
The sponsor has been providing self-ordering SaaS to their Chinese clients since 2015. However, adjustment and adaptation must be made for existing product so that it can be employed in the New Zealand market. A Singapore-based software development company is preliminarily selected to carry out the development of the new product evolved from the existing one. Further specification for the new product is attached in appendix 4.

A simplified tutorial for two end users of the product are presented below.

Customer's perspective



Restaurant owner and operator's perspective



3.3 Solved Problem & Benefits

The new product will be able to solve various problems that traditional ordering processes had for restaurant operators and customers. The table below lists the problems and benefits the new product shall be able to offer, and they also form the objectives at the designing stage of the new product.

Problems solved		Benefits	
Restaurant	Customer	Restaurant	Customer
Short of staff during peak hours	Save time for making order. Less queuing stress during peak hours	Improve kitchen and storage efficacy	Better dining experiences
Lack of means for promotion	Paying full price when promotional options are available	Increase sales	Saving dining budgets

Renewing of paper menu for each minor menu update	Visualised menu makes it easier to know what to expect	Reduce labour cost	Better dining experiences
Occurrence of additional cost from storage due to lack of understanding of customer behaviour	Save time for making payments	Gain reputation and popularity through better customer experiences	Automatic bill splitting , better dining experiences
Lack of means for collecting and understanding of operational data	Save time for back and forth phone calls of reservation and cancellation	Reduce health risks when using kiosks tower	More flexibility on activity planning

Table 3 Problems solved and benefits of the new product

3.4 Product Life Cycle (PLC) & Growth Funnel

SaaS product is in a relatively fast-evolving industry. The understanding of product life cycle (PLC) gives guidance to financial projections as well as market strategy making. As shown in the graph below, the product life cycle begins with the product

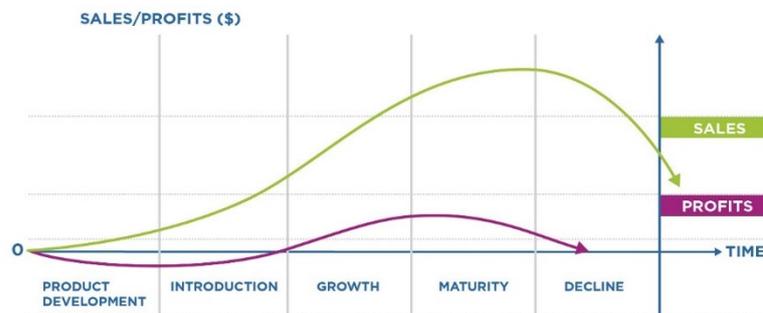


Figure 4 A typical model of SaaS product life cycle

development and introduction, following by withdrawal or eventual demise (or a potential expended, upgraded or amended version of the product) (Lumen Learning).

Above PLC model shows how customers engage with the product and service. It is important to take a holistic approach at any given stage in the lifecycle, as it is common to see businesses getting drawn into spending all available resources in optimising

one particular stage in the lifecycle, and this often ends up in misdirection eventually. Tracking key metrics at each stage can help the business to identify the obstacles against customer acquisition, engagement or retention. This is helpful for gathering information when updating SWOT analysis under different stages in the lifecycle.

However, a number of adjustments of the traditional model are needed in further analysis, as PLC model has its inherent limitation for several reasons.

Realistically, very few products follow a smooth and predictable path in growth. For example, seasonal factors that might impact customer demands might alter the duration of the introduction and growth stages, which in return, requires business to strategically plan their product development stage accordingly.

No.	Stages	Customer Interaction	Width in Growth Funnel
1	Acquisition	Awareness	
2		Consideration	
3		Qualification	
4	Engagement	Evaluation	
5		Purchase	
6		Activation	
7	Retention	Expansion	
8		Renewal	
9		Referral	

Table 4 Table 2 Different stages in SaaS product growth funnel

1) Awareness

This is the earliest stage of the lifecycle when customers start to realise their problems and look for options to solve them.

2) Consideration

At this stage, customers in the target market will have an adequate understanding of the problems and might start to identify potential solutions.

3) Qualification

This is the stage when customers would narrow down their options. They may request a product demo or free trials or reach out for sales team.

4) Evaluation

This is the first stage in the engagement period which is the key to the success of the SaaS product. Customers now are in their final decision-making stage and might come down to very specific questions and clarifications to the capabilities of the product.

5) Purchase

This is the beginning of seeing income in business revenue.

6) Activation

Now, new customers are going through processes of a range of registrations, verifications and other onboarding process the business has.

7) Expansion

This is the beginning of retention stage when regular customers are convinced of the value created by the product or service. They may decide to request for additional functionalities available expanding from the initial packages they have signed up for. This explains why the 'free-mium' business model often outshines other business models in the SaaS industry.

8) Renewal

Existing customers subscription periods come to the end and some of them might choose to continue paying for the service.

9) Referral

At this stage, 'word of mouth' begins to work for you, as satisfied customers are now recommending the product to their colleagues or other customers in their network. This is very valuable especially in B2B products, since it is difficult for new products to win over the penetrated market.

As shown in the growth funnel chart, there can be an expectable gap between the number of customers who are considering the product and the number of customers who would actually make the payment. As a result, positive reactions from initial market researches and interviews should not be overestimated and blindly be used as clear evidence of unique proposition of the product.

4. Target Market

4.1 Market Definition

Defining the market is essential to narrow down the marketing focus at the planning stage. The five-level model is selected to illustrate customers segregation. Within the hospitality industry, the broadest level in definition is the potential market. For planning purposes, the potential market is defined by more than the product itself. Instead, it includes all the customers who may be interested in the finishing product and service. Available market is a part of the potential market, the element of sub-culture is considered in this segment. This is because the product potentially could spread across customers faster through particular social group in ethnic restaurants and

taverns. A subset of that is qualified available market, based on product-specific criteria these restaurants often already have their visualised menu ready to upload. The major value-adding functionality of the new product is to increase table turning rate to improve sales, which fits most fast-food and food court businesses. Therefore, they should be positioned as the target market. Within which, the smallest market of all is the penetrated market where all customers in the target market currently buy or have bought similar products. This is because owners of newly established outlets do not need to abandon previous devices, and thus, they become more incentivised compared to existing business owners in the market.

At the same time, penetrated market is also naturally the most effort consuming segment of the market to win over.

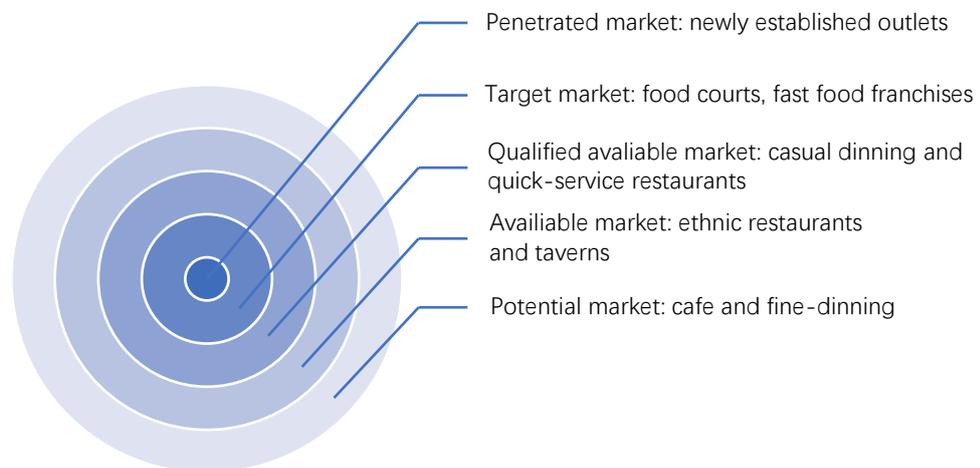


Figure 5 Five levels of market definition (Hall, 2003)

4.2 Market Share Estimation

Over the past five years, there has been roughly 14%-18% of annual new openings and closings out of the total amount of hospitality outlet. Take year 2017 for example, there were 2,739 new businesses opened and 2,232 closed in a total quantity of 17,328 of hospitality outlets as mentioned in 2.3. Table 3 below shows the ratio of different types of outlets opened and closed in 2018.

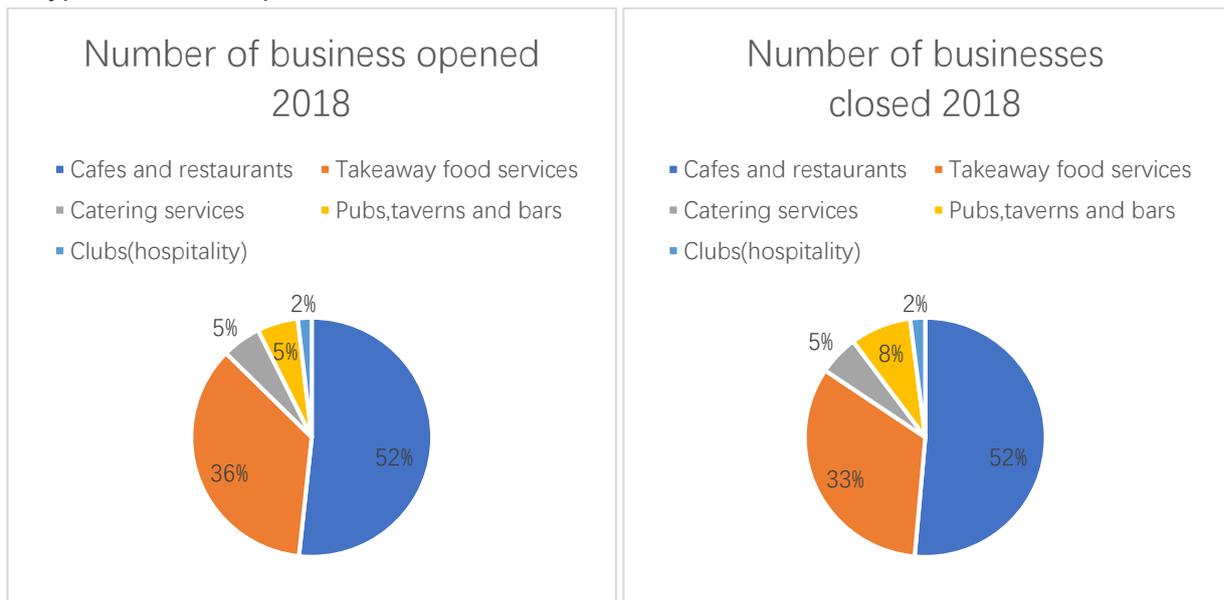


Figure 5 Number of hospitality business opened and closed in New Zealand in 2018

As depicted below, New Zealand's hospitality industry is under a stabilisation stage. Existing businesses owners who have previously succeeded in meeting customer demands and managing their costs have gained great experience, which in return made fewer fresh starters willing to get involved.

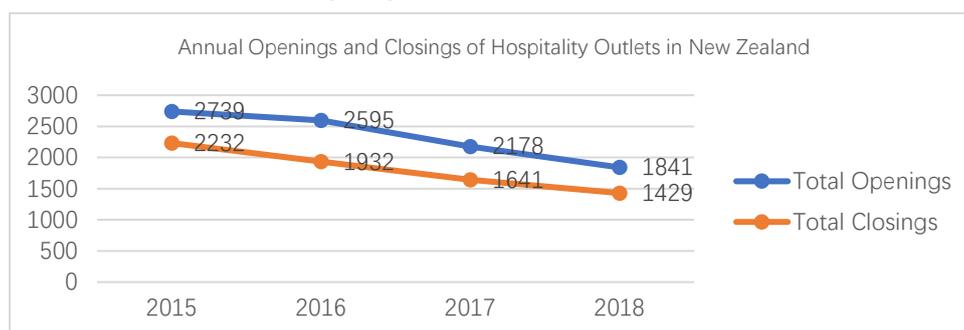


Figure 6 Annual Openings and Closings of Hospitality Outlets in New Zealand from 2015-2018

4.2.1 Survey Data-based Estimation

From the survey received from restaurant operators, 76.3% respondents prefer a price range of \$500-\$1000 for their ordering system. \$750, therefore, is selected to estimate the total market share. Results of the market share by different levels of market defined in 3.1 are presented below:

Level of market	Market share by unit	Market share by money NZD	Percentage of total market share
Penetrated market	800	600,000	7%
Target market	2743	2,057,250	24%
Qualified available market	5714	4,285,500	50%
Available market	8572	6,429,000	75%
Potential market	11429	8,571,750	100%

Table 7 Survey-based market share estimation and percentage by levels of market defined

Another way to estimate the market share is to use the cost component of an average restaurant business. This is heavily dependent on the pricing strategy of the final product. Below is a typical restaurant business revenue breakdown that can be used to conduct the market share estimation.

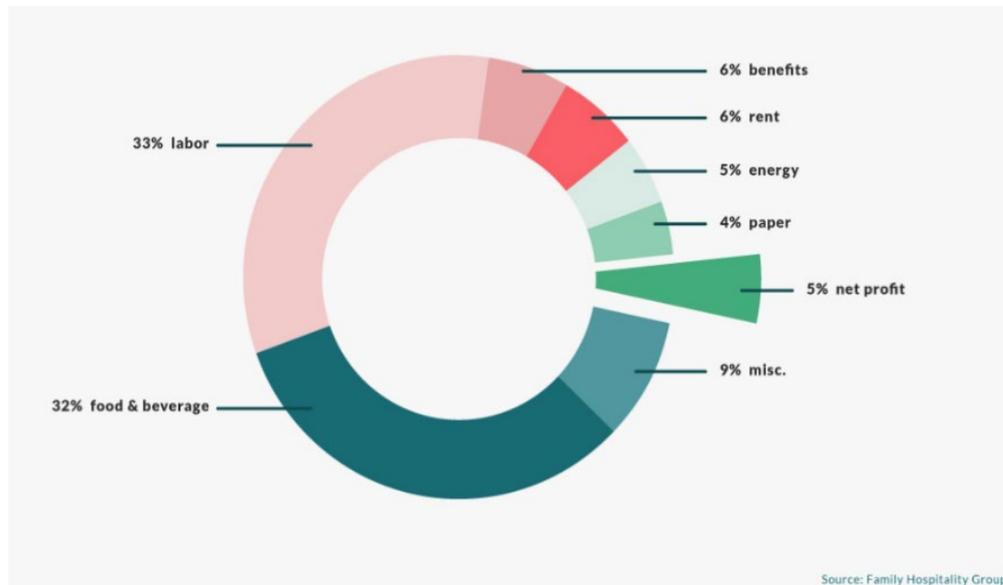


Figure 6 Typical restaurant business revenue breakdown

4.2.2 Product Lifecycle-based Estimation

Throughout the marketing of the new product, changes of the market share are inevitable, as it will be affected by the life cycle of the product. The total annual sales in New Zealand's hospitality industry was 10 billion NZD in year 2018. From the result of survey-based market share estimation above, \$8,500,000 roughly represents less than 1% of the miscellaneous spending. Table 8 below is a market share estimation using product maturity period in the PLC model. It is based on a point of stage when it is ideal for the business to aim at charging customers 3% of the average miscellaneous expenditure of a typical restaurant business mentioned above.

Level of market	Market share by unit	Market share by money (NZD)	Percentage of total market share
Penetrated market	800	910,000	7%
Target market	2743	3,120,000	24%
Qualified available market	5714	6,500,000	50%
Available market	8572	9,750,000	75%
Potential market	11429	13,000,000	100%

Table 8 Lifecycle based market share and percentage by levels of market defined

4.3 Markets and Customers Research

Two sets of survey have been conducted through Google Form by the student (See Appendix 2 and Appendix 3). 45 responses have been received from the restaurant business owners and 93 responses have been received from restaurant visitors. Due to privacy policies of Google Form, detailed demographic information of each respondent is not available.

Key conclusions can be drawn from the feedbacks:

- i. Although self-order kiosks are implemented across the fast-food chains in New Zealand, almost 90% of the people still prefer to make their orders at the counter unless the queue is visually too long the time they arrived at the restaurant. This made many investors doubt about the timing of introducing emerging self-ordering technologies to New Zealand, as customers have not shown great interests in leaning self-ordering systems.

- ii. A lack of competition in restaurant businesses is significant in comparison to the same industry in China. According to the customer feedbacks in the survey, less than 45% of customers have negative feelings when being put in waiting during peak hours. This makes the new product less appealing to restaurant owners regarding the improvement in customer experiences.
- iii. Majority of people have very casual attitude towards what dish to order, and most people are quite open about trying new dishes. This gives a great opportunity for restaurant owners to utilise the function in our new product. The product allows them to arrange their menu sequence automatically according to the sales data or their own desire.
- iv. Although some of restaurant owners did not disclose their spending on their current ordering system, available data depicts a price range between \$500-\$1000. This is also partially the reasons of setting the annual subscription fee at \$420 in the pricing strategy, because technically no additional procurement cost is required for new devices.

5. SWOT Analysis

The purpose of this SWOT analysis is to match key strengths with promising opportunities and see how strengths can guard against weakness and threats in supporting marketing strategies and programmes. It should include internal, external and competitive analysis.

Four criteria (Mary K, 1998) are used in the following analysis to determine whether a particular capability, factor or resource shall be defined as a strength or weakness:

- a) Previous Performance

How has the factor affected earlier performance in similar situation, as measured by turnover trends and profitability, market share, productivity index or other KPIs?

- b) Outcomes

How has the factor contributed to specific outcomes defined in objectives and goals?
 How likely is the factor going to impact short- and long-term outcomes?

c) Competitors

How is the factor influencing existing competitors in the market and how likely will significant changes in the competitor environment occur in the test market period?

d) Management Judgment

Given the same external opportunities, internal management judgment and decision making can turn weakness into strengths or the other way around. Capability of organisational managers in spotting and reacting to particular factors in a crucial criterion to this extent.

5.1 Internal Analysis

SWOT	Internal Capabilities and Factors
Strengths	Technical experience and expertise in the Chinese market. Marketing experience in the Australian market.
Weakness	Lack of suitable candidate for project management as it requires knowledge of both the SaaS product and the New Zealand market.
Opportunities	More capital resources such as government funding options are available for exporting tech-based service overseas.
Threats	This is the first time for the sponsor to cooperate with the software development candidate company, which may cause delay in the delivery and acceptance of the final product. The ongoing COVID-19 (Corona Virus) outbreak has forced over 30% of the restaurant businesses to temporarily shut down in China. The sponsor is facing negative cashflow for consecutive months in the Chinese market.

Table 9 Internal SWOT analysis

5.2 External Analysis

SWOT	External Circumstances and Factors
Strengths	<p>Patent ownership of such SaaS products in China gains the advantage over other Chinese companies in the industry.</p> <p>The new product will have significant differentiations from exiting products in the market including functionalities, platforms and services.</p>
Weakness	<p>The sponsor has relatively limited resources in the New Zealand market and many unfamiliar territories to get familiarised to which may include business codes, corporation regulations and taxation policies.</p>
Opportunities	<p>Increasing trend of cashless payment and digitalisation amongst New Zealand customers opens new opportunities for gaining initial users.</p> <p>The sponsor preserves the opportunity of register the patent once the finishing product is delivered from the software development company.</p> <p>Customers passing a certain stage in the growth funnel may consider purchasing other products that serves the SaaS product better from the sponsor.</p> <p>Minimum wage policies from New Zealand government putting on pressure for small business owners to manage their labour costs which might result in more mid-scale hospitality business owners to introduce Self-ordering services.</p>
Threats	<p>Big international corporations might quickly react to the new product by introducing an add-on product or service in their existing ones.</p> <p>The ongoing COVID-19 (Corona Virus) outbreak puts a threat on the hospitality business globally. A reshuffle of the industry is expected thus an increasing element of unpredictability in the industry.</p>

Table 10 External SWOT analysis

5.3 Competitive Analysis

In New Zealand, such SaaS products are still in an unfamiliar territory for most customers in the penetrated market. No significant competitor known has products that are targeting specifically towards the same defined market. This is likely because the lack of incentives for tech-giants to exploit the market niche on this scale.

Study (Seethamraju, 2015) has shown that determining factors for customers when deciding to adopt SaaS products are:

- a) Software vendor's brand reputation in the market;
- b) Suitability of the product to the businesses;
- c) Willingness of the vendor to give support to customer throughout the product life cycle as well as the overall quality of customer service;
- d) Willingness of the vendor in participation of cocreating value for customers and benefits of implementing integrated systems.

Once gaining a certain amount of customer, the sponsor should consider switching the business into a defensive marketing position against potential new brands entering the same market.

By gaining customer loyalty through four aspects mentioned above, the business would be able to build up a thicker wall in defending the penetrated market share in the future.

5.4 Assumptions

From both formal and informal interviews with restaurant owners, most respondents are interested in and excited about the new way of ordering. In order to validate the market, crucial assumptions and hypothesis are listed and analysed. The table below indicates the level of certainty and reasoning for each.

No.	Assumptions	Descriptions
1	Enough number of New Zealand restaurant owners are willing to introduce the new ordering method to their businesses.	<p>Although most survey respondents showed interest in the new way of self-ordering, it could be a long way between liking the idea to paying for the product.</p> <p>For those restaurants that already have solutions in place, a lack of incentive for change considering the scale of their business can be difficult to fulfil.</p>
2	New Zealand customers are shifting towards self-ordering when visiting restaurants.	Digitalisation of daily activities is an inevitable trend. Evidence of such transformation is clear but finding the perfect timing to enter the market could be a challenge.
3	First 100 subscription from restaurant end users will trigger a viral effect and gain a great momentum for larger audience.	On reviewing cases of UberEATS (Grewal, 2020) and LIME Scooters (Eckhardt, 2019) and their launch in the New Zealand market, such phone App does have a breakthrough point in user number once a certain pool of users is achieved. However, the momentum can be easily lost in the following period if no enough adaption is made for future development.
4	The new product has unique proposition amongst other similar service providers.	By researching similar service providers in Auckland and Wellington, the new product has advantages in a range of functionalities, freedom of customisation and integration of user ends.

Table 11 Assumptions and descriptions

6. Marketing Strategy

The marketing strategy for this project is relative conservative, as it is not isolated from the current main business strategy (non-growth based) of the sponsor company due to threats mentioned in the SWOT analysis. The marketing strategy for the product takes consideration from three directions – growth, maintenance and retrenchment. Promotion and pricing strategy serve the growth strategy while exit strategy serves retrenchment strategy.

6.1 Strategy Pyramid

As the business nature of the new product is software as a service. The strategy pyramid below is selected to illustrate the marketing strategy. A top-down sequence is used to ensure that the foundation of key marketing strategy is supported by relevant marketing tactics and activities.



Level	Description
Marketing strategy	Market strategical direction Market Objectives – financial objectives, marketing objectives, societal objectives
Marketing tactics	Marketing-mix tools
Marketing programs	Advertising Pricing Promotion Personal sales Other activities

Figure 7 Marketing Strategy Pyramid

6.2 Objectives

Marketing plan objectives are defined as short-term targets that are relevant, speck, measurable and time defined. Three categories are used to breakdown the objectives of the marketing plan - financial objectives, marketing objectives ad societal objectives. As a new brand in the New Zealand market, indirect influence from societal objectives on both marketing and financial outcomes should not be underestimated.

6.2.1 Financial Objectives

Financial objectives are conducted based on financial projection and market share estimation. The key principle of setting financial objectives is to make them realistic as well as challenging, so that the business can expand more quickly.

Internal requirements		External results	
Break-even deadline	8 months	Number of restaurant end users in 6 months	900
End of year ROI	25%	Number of customer end users in 6 months	30,000
End of year penetrated market share	10%	Number of new users from promotions in 3 months	12,000

Table 12 Financial objectives

6.2.2 Marketing Objectives

Marketing objectives can be determined in terms of internal activities and external relationships. The importance of channelling and connecting with customers has been emphasised in the PLC model mentioned Section 3.4. External relationships are outstandingly crucial for a new establishment in the market not only because they create many opportunities but also because they accumulate the defending strength in the future competition.

In practice, there are often conflicts between marketing objectives and financial objectives, as it is unrealistic to dramatically increase both market share and profitability at the same time. However, due to the nature of SaaS product, changes in price are less acceptable by most customer segments.

Internal activities	External relationships
Shorten the development period of the product	Stimulating product trial
Utilise flexibility in design period to improve product quality	Building brand awareness and preferences
Preparing and managing resources to enter new market segments	Retaining existing customers by average 60%+ subscription renewal rate
Update market research on monthly basis	Defending market share by not losing 30% of historical peak market share

Table 13 Marketing objectives

6.2.3 Societal Objectives

New Zealand business owners are becoming increasingly mindful of their social responsibility. Most businesses fulfil their societal objectives by donations to social events, charities or good causes. The concept of strategic corporate altruism (Brown, 2006) suggests that setting specific societal objectives for cause-related marketing adds value to both stakeholders and the company.

Ecological protection	Social responsibility and stakeholder relations
Conservative usage of natural resources	Sponsor university student in supporting activities in the developing stage of the product
Purchasing electric vehicles for company usage	Sponsor at least one social event
Be selective in initial marketing approach towards 'greener' channel members	Encouraging volunteering among employees

Table 14 Societal Objectives

6.2 Promotion Strategy

Promotion strategy for the product aims to stimulate customer purchase with the lowest possible expenditures. This requires gaining information from new customers on which promotion channel they take in entering the sale funnel of the product.

According to the previous experience of launching the original phone app in the Australia market, main challenge in the promotion section was towards restaurant end users rather than towards customers. Once a handful number of restaurants have signed up for the service, an initial momentum is expected to be automatically created from their existing customers.

6.3.1 Promotion Techniques

Below is a list of sales promotion techniques applicable for SaaS products and the suitability levels for the product in this report.

Sales promotion technique	Description	Suitability
Offering sample	Offering free trial of the product to public	High
Coupon	Certification system for redeemable discount off price	Medium
Free-mium	Using a free version of the product to induce purchasing of an upgraded version of the product	Low
Refund/Rebate	Cashback under certain qualification	Medium
Price pack	Defining certain combination of product packages to apply discount	Low
Loyalty rewards	Rewarding renewals of service	High
Pre-purchase demo	Offering genetic or customised demo video for customers at pre-purchase stage	High

Table 15 Suitability of different sales promotion techniques

6.3.2 Advertising

I. Social Media Advertisement

The data below shows the most active social media platforms in New Zealand, according to surveys conducted by Hootsuite (Hootsuite, 2019) in January 2019.

Rank	Social Media	Percentage of NZ Internet Users
1	YouTube	86%
2	Facebook	85%
3	FB Messenger	69%
4	Instagram	45%
5	Pinterest	31%
6	Snapchat	31%

Table 16 Percentage of Internet Users Who Report Using Each Platform

Combining the above data with consideration of target audience of the app, YouTube, Facebook and Instagram are the prior battlefield for social media advertising.

Minimum cost for each platform aforementioned is recommended for gaining impression in the early launching stage. Cost breakdown is demonstrated in detail in the budgeting section. Duration of social media advertisement is ideally around 100 days. This is inspired by the 'Rule of 7' (Kotler, (1990).), a marketing maxim developed by the entertainment industry in the 1930s, meaning that a prospect needs to "hear" the advertiser's message at least 7 times before they would take action to purchase. An average modern person is estimated to be exposed to 5,000 ads per day. A duration of one hundred days is hence recommended for the advertisement.

II. Personal Sale

Considering the goal of gaining the first 100 restaurant sign-ups, personal sale is essential in the early stage of promotion towards potential restaurant users. Word of mouth often plays a major role in the New Zealand market, and promotional brochures are helpful when the salesperson makes sure they will be reviewed by the business owner.

III. Marketing Automation & Outsourcing

Marketing automation is a newly developed concept, which means outsourcing the entire marketing sector of a business through a third-party agent or platform. At the current development stage of such automation tools, this option is suitable for medium to small. Online tools like HubSpot as well as agency (Concentrate, 2019) that specialised in applying such tools can be hired to manage the early marketing process.

6.4 Pricing Strategy

The pricing strategy is conducted based on market share estimation, PLC analysis and competitive analysis. The main purpose of pricing strategy in product market testing is not to maximise profits. Instead, it is to understand the customers behaviours in the target market by gaining information from throughout the duration of the project.

6.4.1 Background & Assumption

There are several business models for the new product. But for the purpose of calculating indexes in financial projection, the business model applies in which profits only come from the subscription fees paid by restaurant owners.

Available data from restaurant owner survey shows the price range of purchasing ordering system, which is approximately \$500-\$1000 annually. A horizontal research upon similar service providers in Australia and the UK shows the average monthly subscription fee is around \$50 NZD (converted) along with a 14- or 30-days free trial. \$500-\$1000 is considered to be a baseline in the pricing strategy, so that the mobile order product can be competitive as an alternative for potential users.

6.4.2 Options

A wide range of pricing strategies are listed and compared in this section. As the fast-evolving nature of SaaS industry, it is necessary for the business to switch into different strategies and collect market reactions.

Pricing strategy	Description	Suitability level
Cost-plus pricing	Costs plus a mark-up	Medium
Competitive pricing	Setting prices based on how much competitors are charging	Medium
Value-based pricing	Setting prices based on how much customers perceive of the value of the product	High
Pricing skimming	Lowering prices as market evolves	Low
Penetration pricing	Gaining competitive market share at the expense of setting low prices that might not cover costs	Medium

Table 17 Suitability of different pricing strategies

Value-based pricing strategy is considered most suitable for this project while cost-plus pricing and competitive pricing both have also been taken into considerations in setting figures in financial objectives.

Combining with the sample offering technique in promotion strategy, a free first-month trial period for restaurant users can be used to conduct a pricing model. Trial period is a great opportunity to demonstrate KPI growth to restaurant end users though the built-in function of reviewing daily sale data. Membership and subscription model are common amongst similar products and services, as they provide a range of choices as per need of different customers.

An example of loyalty-based subscription pricing model that is suitable for this product is below:

Total subscription fee	Duration	Price per month
\$50	1 month	\$50
\$135	3 months	\$45
\$240	6 months	\$40
\$420	12 months	\$35
\$999	Limitless	-

Table 18 An example of loyalty-based subscription pricing model

This model generates incentive for customers' renewal by the end of their subscription period and can also get more cash inflow up front for the business. One major downside, however, is that pricing skimming is almost not applicable in the future, as it will create price inconsistency between previous users and new users. As a result, this pricing model requires a highly accurate estimation and cost-benefit analysis in setting the prices of the initial offer.

6.5 Exit Strategy

The business expansion is an attempt of market testing, and the market testing aims to validate the assumptions in the fastest manner and adapt them appropriately. Thereby, the principle of the exit strategy is to react in time and prepare in advance.

WHO (World Health Organisation) has officially declared coronavirus as global health emergency on 31st January, 2020. The outbreak of coronavirus heavily impacted the hospitality industry in China and is estimated to cause a reshuffle of restaurant businesses after the subsiding of the virus. Currently, the sponsor's company is facing a great difficulty on handling the ongoing decreasing number of customers in the Chinese market.

6.5.1 Consideration

For the sponsor, an exit does not necessarily mean a permanent one. It might turn out to not be the right timing for such product, but eventually similar product will highly likely emerge in the market. For this reason, when exiting the market, the sponsor should ensure that the local resources are enough for them to respond to a better timing to enter in the future.

6.5.2 Triggers

Traditionally speaking, trigger for initiating exit strategy for business is mostly financial focused. However, considering that the cost structure of the new product is relatively simple, several precaution trigger index can be used to give the investment a cushion period to embrace the upcoming exiting. As depicted in the financial projections in the appendix 5, a minimum cash on hand alert can be used as one of the indexes as well as monthly sale data. The amount of minimum cash on hand alert shall be adjusted on a monthly base as the operation proceeds. Principally, any consecutive monthly cash in hand below the alert amount should draw the attention of the operator, as further financial measurement is not taken into consideration, exiting should be considered in this case.

6.5.3 Options

A. Selling to a local digital solution company

There are a few local companies providing similar services to restaurant owners. On reviewing their products, the new product to be designed has competitive advantages on range of functionalities. Options here include selling the right of use of software product or software designing pattern to a third party. The selling process may involve drafting a number of contracts, and other paperwork that can be prepared beforehand. It is recommended that the sponsor makes sufficient preparation on legal issues under such cases.

B. Selling the product to a particular restaurant franchise

Although the major fast-food giants in New Zealand have established their own self-ordering systems in different ways. There are still roughly 30-40% market share from medium to small restaurant franchise to be explored. A one-off trade to a restaurant brand will unlikely cover a significant proportion of the initial investment, and thus should be considered last option in exiting.

7. Financial Projection

The budgeting for the launch of the new product is produced based on accounting data from the Australia branch of the sponsor and business costs booklets. Three different scenarios are listed to provide a range of coverage of financial projection in different situations.

Pricing strategy and promotion strategy are factored in the cash flow forecasting. A minimum cash on hand alert is set as a measurement for implementation control.

An initial investment of \$120,000 is set as the base for cash flow calculations. Realistically, continuous investments throughout the marketing should be considered. However, in order to narrow down variables in financial projection, fix initial investment is used for all three scenarios.

Below are key indicators extracted from the financial projections (See Appendix 4).

	Scenario I	Scenario II	Scenario III
Initial investment	120,000	120,000	120,000
Total number of restaurant end user subscriptions	1,371	1,800	2,100
Annual spending	295,800	243,400	295,800

Total sale fist year	204,356	263,250	385,870
Percentage of penetrated market share under 4.2.1	34.35%	44.24%	64.85%
Percentage of penetrated market share under 4.2.2	22.46%	28.93%	42.4%
Margin	-0.88%	29.35%	42.88%
ROI	-0.87%	41.54%	75.06%

Table 19 Key figures from financial projection

Depending on methods used in the market share estimation, the breakeven penetrated market share in the expected scenario (Scenario II) lies between 29%-44%. Most businesses would prefer to set the financial objective in an aggressive manner at an early stage. However, to align with the overall conservative strategy of the sponsor, the relevant figure in the financial objective is set at 35%, as discussed in Section 6.2.2.

8. Implementation Control

Implementation control in marketing planning aims at ensuring the marketing plan is moving to the expected direction by setting standards and intervals to monitor marketing progress, measuring interim results and diagnose deviations from standard in order to make necessary adjustments when needed.

8.1 Monitoring Measurement

Evaluation of overall effectiveness during the implementation progress is crucial for implementation monitoring. This can be achieved through different types of marketing control tools.

8.1.1 Financial control

To evaluate marketing plan's interim and overall performance, key financial measures such as contributions, profits, costs and investment returns on monthly (or when necessary weekly) basis can be applied to take into comparison to see the progress towards full-year objectives. Apart from the minimum cash on hand alert as mentioned in the exit strategy in above section, by comparing actual figure of expenditure, costs, sales and profits with relevant figures in previous forecasts, the sponsor should be able to carry out internal auditing to find out the causes and make future plan to adjust.

8.1.2 Productivity control

Productivity control is achieved through measurement of efficiency of key marketing activities.

A. Advertising and promotion productivity

In order to categorise customers from different advertising channels, feedbacks from new sign-ups can be used. This is relatively easier for SaaS service as the platforms often simplify the process of gathering relevant information from customers.

B. Sales productivity

Sales productivity control aims at finding the lowest budget to maintain the same level of sale force. This can be achieved through horizontal comparison analysis on which salesperson and territories are the most productive.

C. Product and development productivity

The software development company plays an irreplaceable role in the onetime delivery of implementation. From the concept stage to commercialisation, the sponsor should weigh out importance of potential profitability or flexibility in design as compromising situations are often inevitable.

D. Price productivity

How sensitive a particular pricing scheme stimulates the business revenue is highly valuable throughout the lifecycle of the product. Lower unit sales do not necessarily mean a lower overall profit when the price increment is below the equilibrium point in demand curve. However, considering the nature of the market niche of the new product in this product and the fast-evolving market it's in, evaluation of true market demand can be challenging.

8.1.3 Contingency

Following different scenarios in financial projections and exit strategies, contingency plan should be made for each scenario (or category of scenarios) as a supplement for implementation plan.

For example, the three scenarios planning in financial planning section do not include factors from uncontrollable external factors such as: natural disasters, outbreaks of diseases, terrorism, sabotage or unexpectable complete pressures.

No.	Planning Action	Purpose
1	Identify emergency situation and analyse potential consequences for marketing activities	To understand marketing components that are most likely to be impacted by each emergency
2	List advance preparations that can be made to minimise disruptions and restore normalcy	To have materials and procedures ready when emergency erupts
3	Establish warning signs of impending crises	To help recognise in advance when an emergency is developing and set triggers for the implementation of emergency plan
4	Assign specific actions, responsibilities and priorities for containment and customer service	To avoid internal management issues that might escalate severity of situations

5	Create a contingency communication plan	To minimise response time by effectively keeping shareholders informed
6	Resolve the crisis and analyse how well contingency plan worked	There is never a perfect contingency plan but by eliminating ineffective actions, better preparations can be achieved for the future

Table 20 Purposes of contingency planning actions

9. Intellectual Property

9.1 Software copyright

As the sponsor agreed on the new product to be designed, all IP issues that are all related to software are detailed in the appendix 3. It is important for the sponsor to draw a clear line with the software developing company regarding to responsibility in issues in software copyrights.

It's recommended that the sponsor should take measurements during the development of the software to protect its IP rights. Limitation of access on key data and design information should be considered as well as usage on open source. Open source code does not necessarily mean it can be used for free for commercial purpose, related issues are further stated in software requirement specification.

9.2 Branding

There are different levels of brand identities from company brand to individual brand or co-brand. Registration of trademarks and business names are essential to protect IP rights of the business.

The proposed brand name for the new product used in the specification is 'FoodiEats'. The OneCheck (Ministry of Business, 2020) tool provided by Ministry of Business of New Zealand offers a simple access to available information online regarding relevant information. Trademark and business name are still open to be registered under the

name 'FoodiEats' by the date of 1st February 2020. It is recommended that the sponsor preserve the desired trademark and register business name as early as possible.

10. Conclusions and Recommendations

Overall, the conclusion is that the sponsor should expect a lot longer market testing period than one year in order to make it effective and also to reach the break-even point. From financial projection, it is only profitable for the Sponsor to launch the new product if roughly 30% penetrated market share can be achieved by the end of the first year. However, realistically, the financial objective of getting 10% market share is challenging itself with the given marketing budget and current market situation.

Based on cashflow and budgeting for the project, it is recommended that initial investment prioritises early-stage promotions. As the exit strategies mentioned, failure to achieve certain milestones may suggest great discrepancies in expectation and reality. It is recommended that the sponsor keep a regular update of the financial alerts mentioned and make strategical adjustments on a monthly basis.

The new product ideally can be used as a gateway for introducing other existing product of the sponsor into New Zealand market, and therefore the sponsor should also pay attention to gain relevant resources in the industry during the marketing of the new product. Thus, it is highly recommended that the sponsor should register membership of Restaurant Association of New Zealand in order to gain access to their latest data and analysis. Changes in such service providing market share can be drastic and highly unpredictable, however, the sponsor can utilise the financial projection provided by the student to adjust the base case in this report to update projections regularly. From interviews done by the student with restaurant business owners who already become member of Restaurant Association of New Zealand, it is considered a great step towards building initial public relationship in the industry as well.

It is recommended that the sponsor should reconsider the market testing period of the new product. The lifecycle of such SaaS products is often longer than expectation especially the maturity period,

New technologies on virtual test market system (U.S Patent No. Patent Application No. 10/388,863., (2011).) have emerged in recent years. Virtual test market systems utilise computer simulations of market environment, consumers and companies driven by multi-agent system as well as methods from artificial intelligence to create a virtual test market environment. It provides a way to mitigate risk of revealing a new product too early in fast-evolving markets. This is not discussed in this report as the necessity of spending of hiring such service is unjustifiable on the scale of the business of the sponsor. However, it is recommended that the sponsor should consider using the element of such concept partially in their market testing when appropriate.

It is recommended that the sponsor should take measurements in protecting their IP rights in the development of the software and apply for patent as soon as the final product is delivered. This is to preserve a wide range of options when other international corporations realise the market potentials and try to compete or offer one-off sell-out options.

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12. Appendix

Appendix 1 Research data

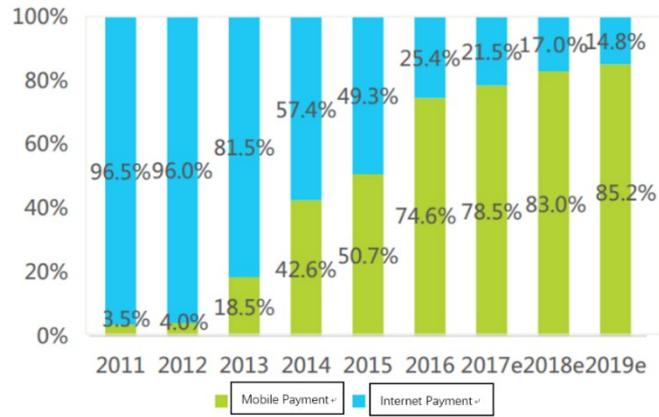


Figure X Percentage of mobile payment vs Internet payment in China from 2011-2019

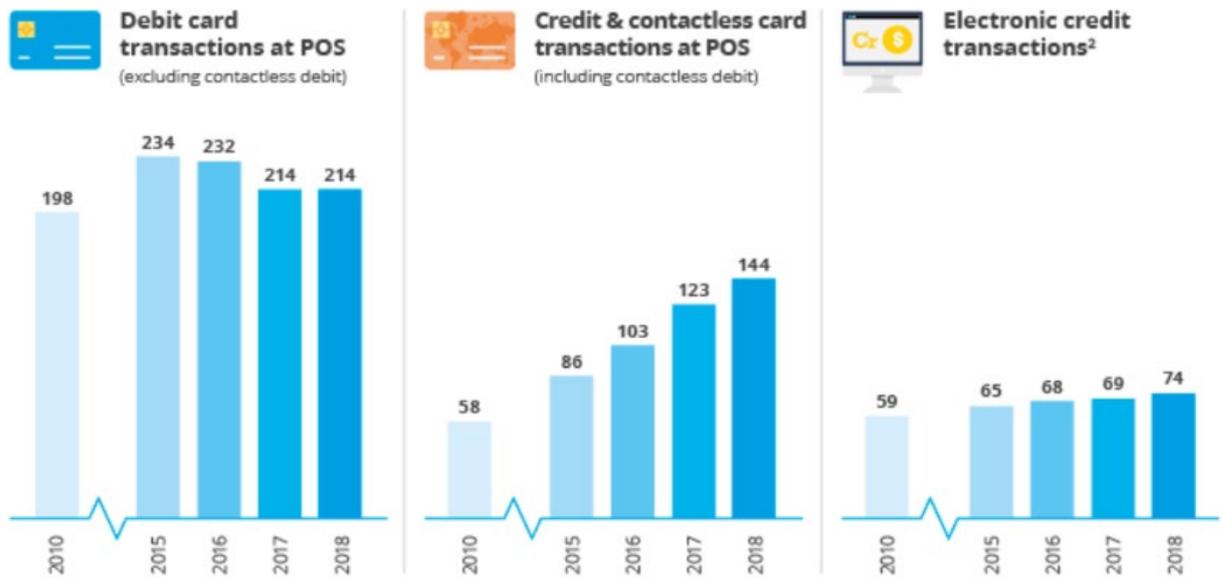


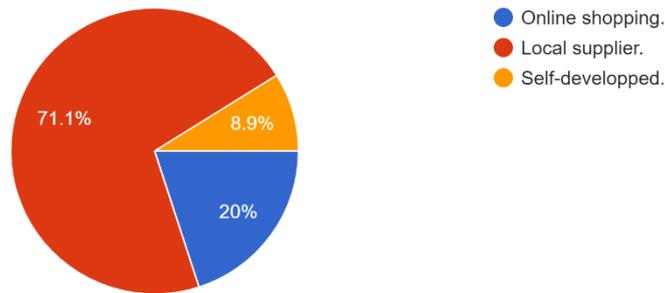
Figure X Number of transaction one New Zealander made on average per year through different payment methods

Appendix 2 Survey I for restaurant owners

A series of survey were carried out by the student online. Two sets of google survey forms were designed by the student and reviewed by the sponsor before sending out. It is noteworthy that not every respondent has filled up every question due to different reasons. Results are shown blow.

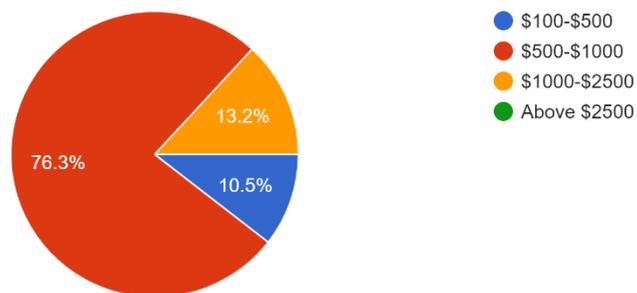
1. How did you set up the current ordering system in your restaurant?

45 responses



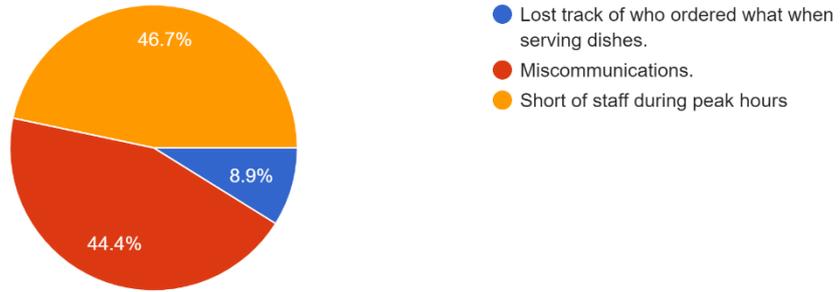
2. How much did you pay or would you pay for the ordering system with a full set of software and hardware?

38 responses



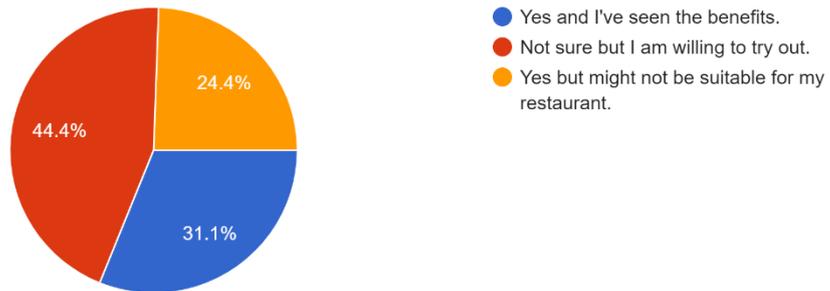
3. What are problems that happened in your ordering process?

45 responses



4. Do you think visualized dishes on menu help you increase sales?

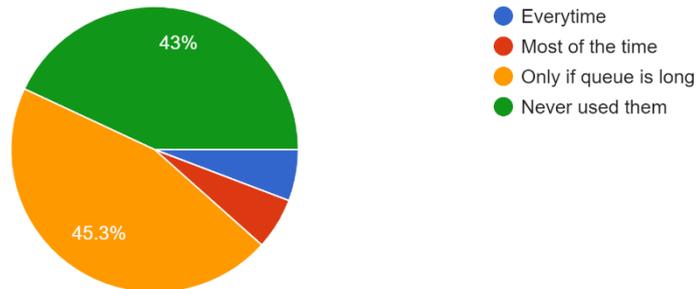
45 responses



Appendix 3 Survey II for customers

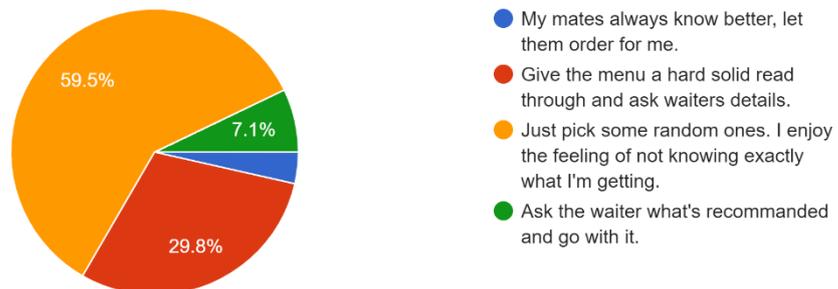
1. How often do you use self-ordering kiosks in fast food chains?

86 responses



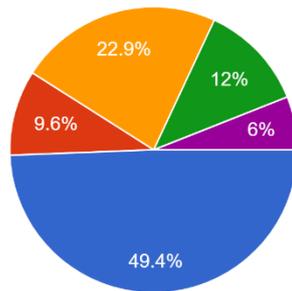
2. How do you usually decide what to order in a restaurant?

84 responses



3. What usually makes you decide to try a new dish in the restaurant ?

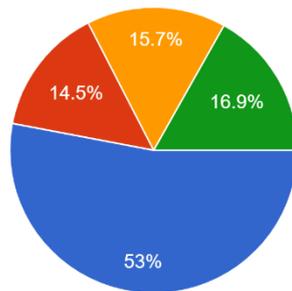
83 responses



- I always like to try something new.
- I've had enough of the ones I often order.
- They look good from the pictures.
- Other people in the restaurant are having them.
- My mate told me to try it.

4. How does visualized dish help for your food ordering?

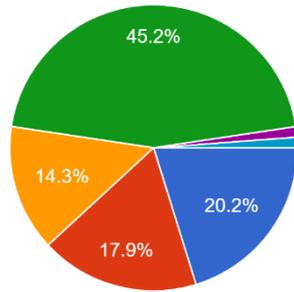
83 responses



- They are helpful when I have no idea what's it like.
- They can be misleading to me as they often look prettier.
- They all look alike to me in certain restaurants, especially Asian restaurants. So what's the point?
- Save time reading through literal descriptions.

5. How do you feel when waiters are too busy to take your order?

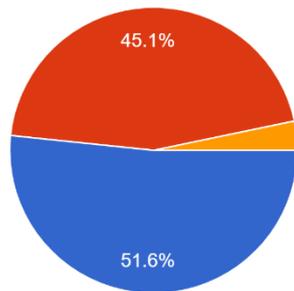
84 responses



- It's peak hour, nothing to complain.
- I am happy that I have time to study the menu.
- They should have more waiters during peak hour, my time is wasted.
- I'm fine as long as it won't take forever.
- It's dinner hour, nothing to complain.
- Wait, we were here first, why you are taking their orders first?

6. How do you deal with splitting bill?

91 responses



- Someone pays first and suss later.
- Let the waiter do the calculation although it might be a hassle sometimes.
- It's always a shout either by me or my mates.

Appendix 4 Software requirement specification

Software Requirements Specification

for

<Foodieats>

Version 3.0 approved

Prepared by <Chunheng Zhang>

<Beijing ZHIBOHONGYU Culture Development Company>

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Revision History

Date	Reason for Changes	Version
2020/1/7	Adjustments need to be made to be in order for the document to be able to function as part of the potential contract. The potential contractor expressed their understanding of the documents.	1.0
2020/1/18	Deletion of some concrete specification statements that might reduce flexibility for the contractor in the software development stage.	2.0
2020/1/31	Proof reading and formatting	3.0

1. Introduction

1.1 Purpose

This software requirement specification (SRS) is written based on the client requirement of the product to be designed and includes three user ends.

1.2 Document Conventions

This SRS will be used as the guideline for the contractor's preliminary quotation for carrying out the software development. Documentation priority shall be defined in the contract template. For any undefined requirement, the contractor can choose to offer provision sum in the quotation or ask for clarifications in the designated period.

1.3 Intended Audience and Reading Suggestions

This SRS is conducted by the student sponsored by the client. Client shall review and finalise this SRS before issuing it to the contractor.

1.4 Product Scope

The self-ordering software of the restaurant is referred to as 'Foodieats' in this SRS. None of the trademark nor business entitlement has been registered in New Zealand till the completion date of this SRS. The product is aimed at improving the experience of the restaurant visitors as well as the efficiency of restaurant operators by simplifying the ordering processes with digital solutions.

2. Overall Description

2.1 Product Perspective

This product is inspired by one of the existing products of the client in the Chinese market. Adjustments were made for its launch in the New Zealand market.

2.2 Product Functions

Restaurant end users will be able to access and edit their digital menu on the website as well as receiving reservations. Customer end users will be able to scan the QR code on each table in the restaurant to access the digital menu and make their orders from there. Restaurant end users then receive their orders from their devices and serve dishes accordingly. Client end shall be designed to oversee all data and spot errors in the system. All errors from other two ends shall be traceable from the client end.

2.3 User Classes and Characteristics

Restaurant operators shall be required to register on the website with relevant certification and verification. The website shall be easy enough to use for all end users. A FAQ session shall be included and answer most potential enquires. The product is expected to be used on a daily basis for each end user. Restaurant end users and customer end users are equally important. Since the client end user serves for the purpose of monitoring, this is not listed as prioritised user class.

2.4 Operating Environment

Below is a sheet for each end user's hardware platform and operating system.

End Users	Hardware platform	Operating system	API & others
Customer End	Mobile phone	IOS & Andriod	Mobile banking payments
Restaurant End	Tablet, PC and mobile phone	Windows for PC IOS & Andriod for tablet and mobile phone	
Client End	PC	Windows	

2.5 Design and Implementation Constraints

The new product is required to have both English and Simplified Chinese interfaces. The sever shall have the capacity to facilitate a maximum user number of 2,000,000 at the same time. When offering the quotation, the contractor shall consider all regulations in software development in New Zealand.

2.6 User Documentation

User documentation components shall include but not limited to:

- User manuals for each user end.
- A FAQ on each user end.
FAQ session will be further perfected after the release of the product. A technical-focused FAQ list is expected at the starting point.
- Built-in walk-through tutorial for first log-in on each platform.
- Notes in user privacy agreements from the technical point of view.
Please suggest which part of user data shall be used at the user's own risk.

Costs for integrating third-party payment methods on customer end shall be investigated by the client. The contractor may include an estimated cost for including payment methods that are known to the contractor.

The contractor shall use one year to carry out the calculation of maintenance cost including hiring a domestic server. The defect notification period for the product is one year from the acceptance of the finishing product.

3. External Interface Requirements

3.1 User Interfaces

User interface requirements shall be functional-oriented at this stage. After reviewing sample screen images and screen layout interfaces provided by the contractor, the client and the contractor have reached a verbal agreement on the principles of graphical design of the product. A consistency of graphical impression across different platforms is required.

3.1.1 Restaurant end

3.1.1.1 Registration and verification UI

For the potential free-trial period for new users, verification of end user address and the license is required.

3.1.1.2 Menu editing UI

A range of choice of templates is expected to be provided to users, including further customisation of details.

3.1.1.3 Notification UI

The end user shall be able to receive on-screen notifications with sound alerts when receiving an order. The order information shall include but not limited to:

- Table number
- Dishes under names/seats
- Food allergy

- Other notes

3.1.1.4 Sales information UI

The end user shall be able to review their sales information in a graphical format at the end of each open day. Monthly and annual graphics are also expected to be automatically generated.

3.1.2 Customer end

3.1.2.1 Registration and verification UI

For the potential free-trial period for new users, verification of end user telephone number and email is required.

3.1.2.2 Ordering UI

Ordering UI should contain a QR code scanning UI that enables the user to utilise the camera to scan the QR code on the table followed by the digital menu created by the restaurant end users.

3.1.2.3 Payment UI

Payment method selection UI

3.1.3 Client end

3.1.3.1 User Information UI

The client shall be able to review the total number of end users and their subscription status. The fluctuation of user numbers shall also be depicted for the client to make adjustments in future planning.

3.1.3.2 Error & Complain Notification UI

The client shall be notified in real time when an error occurs at any other two user ends. Complaints submitted shall be responded ideally on the same day.

3.2 Hardware Interfaces

No specialised devices are required to use the product, thus all hardware interfaces shall be designed as per the industrial standard for mobile phones and computers.

3.3 Software Interfaces

Potential connections between this product and other software components are expected to be listed in the quotation. The client shall give full support to the contractor's requests on the software interfaces regarding database or integrated commercial components from existing products of the client.

3.4 Communications Interfaces

Communication interfaces shall be integrated into the HTTP website for restaurant end users. An online customer service interface is expected. Ideally, a designed bot shall interact with customers first with options of issues and solutions. The human employee is expected to interact only when customer service bot fails to solve the issues submitted.

4. System Features

This template organised the product's functional requirements by system features and illustrates the major services provided by the product.

4.1 Restaurant End

4.1.1 Description and Priority

- A. Verification of newly registered restaurant end users.
- B. Generation of QR code for each table in the given restaurant end user.
- C. Notification of new table orders.
- D. Notification of reservations and cancellations.
- E. Notification of finished payments.
- F. Access for designing, customising and editing the digital menu.
- G. Access for reviewing daily sales information.
- H. Potential promotion verification interfaces.

4.1.2 Functional Requirements

- A. End users shall be able to upload scanning copies that meet the requirements specified on the website.
- B. A QR code control system shall be established to ensure the uniqueness of each QR code generated. Ideally, this can be achieved through a third-party database as discussed previously in the meetings.
- C. Notification of new table order shall not only contain dish information and potential special request or food allergies but also user information from the customer end in order to ensure serving the right dish to the right customer on a multiple customer table.
- D. Options of reservation by choosing a particular table or a particular number of people are provided at the customer end. Therefore, the restaurant end shall recognise relevant information.

- E. Payment information shall be categorised by payment methods. Restaurant user shall be able to review the due transaction and finished the transaction in real time.
- F. The editing interface shall be easy-to-use for restaurant operators. Thus a template pool will be recommended for users to edit further upon. Loading of multiple images of dishes at one time shall be supported. Changes for menu information shall be achievable at any time and saved as history that can be retrieved again in the future.
- G. The restaurant end user shall be able to review sales information at the end of each operating day. Automatically generated graphics are required to reflect the sales variance across months and seasons.
- H. The restaurant end user shall be able to verify customer end user's qualification for potential promotions. For example, a free drink for each new user.

4.2 Customer End

4.2.1 Description and Priority

- A. Registration and verification.
- B. Scanning QR code and making orders through the interface on the menu.
- C. Making reservations and cancellations.
- D. Making payments in different payment methods.
- E. Saving dinning history and 'Foodie Map'
- F. Chances to use promotion codes through promotion page as well as other promotional events.

4.2.2 Functional Requirements

- A. Phone number and email address are required for new subscriptions of potential promotional events.
- B. The customer end user shall be able to utilise their phone cameras to scan the printed QR code and be redirected to the ordering interface.

- C. Options of reservation by choosing a particular table or a particular number of people shall be provided.
- D. Information on the previous finished payment shall be saved as default for the next payment. Total spending shall be saved for the user to review.
- E. 'Foodie map' shall list all restaurants subscribing the product.
- F. Qualified customers shall be able to participate in potential promotions under their verified identities.

4.3 Client End

4.3.1 Description and Priority

- A. Verification of new users.
- B. Access to subscription information.
- C. Errors and bugs feedbacks.
- D. Customer service interface.

4.3.2 Functional Requirements

- A. A manual reviewing process for licenses submitted from the restaurant end users shall be included.
- B. Client shall be able to review real time subscription information on the website.
- C. Client end shall receive all errors and bugs detected from the system and send a notification to the user end as soon as possible.
- D. When end users submit their communication request through their user end, the client shall be able to interact and assist end user through a customer service interface connected to both other two user ends.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

The contractor shall consider the performance under various circumstances, which include but not limited to:

- Server capacity during peak time.
- How the system detects and react to errors?
- A frequency range for error and a time range of recovering during the test. This is for the acceptance of the finishing product.
- The estimated variance of performance resulted from hardware capacity.

5.2 Safety Requirements

The contractor shall be aware of cybersecurity policies in New Zealand. Details can be found on website (<https://www.digital.govt.nz/standards-and-guidance/>)

The contractor must have safeguards or actions to deal with the potential loss, damage or harm that could result from the usage of the product.

5.3 Security Requirements

All data of restaurant end user should be secured by the service provider in the user agreement.

All end users are required to register with an address for their identity authentication. Restaurant end users are required to register with a scanned copy of their operation license issued by the government to proceed.

5.4 Software Quality Attributes

The contractor shall include additional important quality characteristics for the product in the quotation. Below are considerations from the client.

5.4.1 Usability

Ideally, restaurant end and customer end are expected to comprehend and use the product after watching a beginner tutorial on first log-in.

5.4.2 Testability

Finish product for each user end shall be tested by the client.

5.4.3 Reusability

The contractor shall archive all coding and relevant information of all versions being submitted to the client before acceptance of the finishing product.

5.4.4 Maintainability

A guidebook for daily maintenance of the product including Internet server and other crucial hardware components shall be provided by the contractor.

5.4.5 Adaptability

The contractor shall consider the future adaptability for the client in designing the software. The client is expecting to make further adjustment according to the initial market reaction. This can be achieved through several provisional items in the quotation.

6. Other Requirements

All payment methods at the customer end are TBD at the current stage. The contractor is expected to carry out an investigation on the feasibility of including as many methods as possible and include options in the quotation.

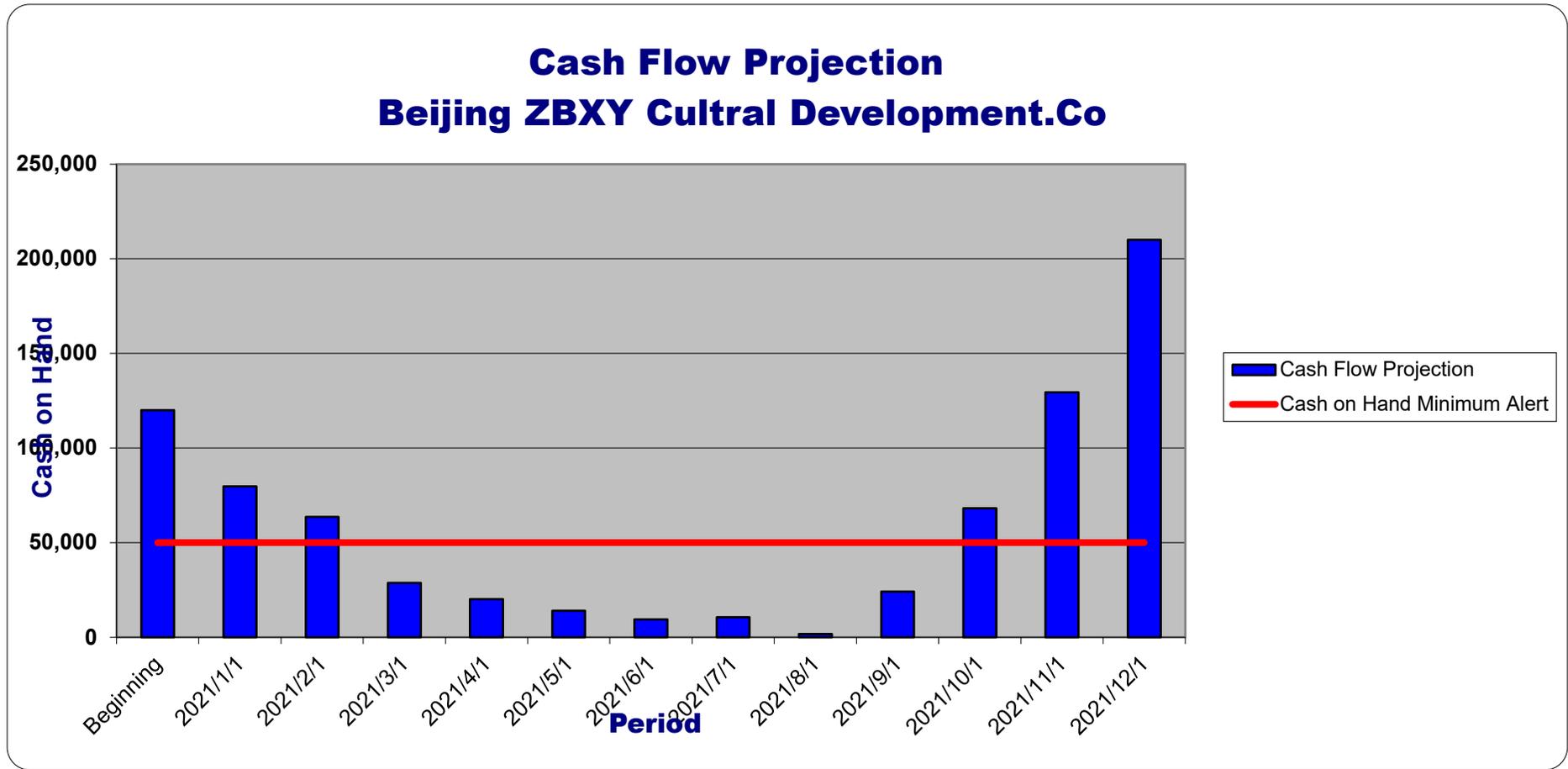
Appendix 5 Financial Projections

A. Cash flow projection for best case scenario

Cash Flow Projection														
Beijing ZBXY Cultral Development.Co														
Starting date	2021/1/1													
Cash balance alert minimum	50,000													
	Beginning	2021/1/1	2021/2/1	2021/3/1	2021/4/1	2021/5/1	2021/6/1	2021/7/1	2021/8/1	2021/9/1	2021/10/1	2021/11/1	2021/12/1	Total
Cash on hand (beginning of month)	120,000	120,000	79,800	63,540	28,690	20,190	14,040	9,500	10,600	1,650	24,200	68,140	129,470	
CASH RECEIPTS														
Total number of subscription		100	120	150	200	250	280	400	650	950	1,320	1,690	2,100	
Cash sales		4,700	5,640	7,050	9,400	11,750	13,160	18,800	30,550	44,650	62,040	79,430	98,700	385,870
Collections on accounts receivable														0
TOTAL CASH RECEIPTS		4,700	5,640	7,050	9,400	11,750	13,160	18,800	30,550	44,650	62,040	79,430	98,700	385,870
Total cash available	120,000	124,700	85,440	70,590	38,090	31,940	27,200	28,300	41,150	46,300	86,240	147,570	228,170	
CASH PAID OUT														
Advertising														0
Office rental		3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	36,000
Vehicle purchase		20,000		20,000					20,000					60,000
Insurance (other than health)		1,200							1,200					2,400
Travel expenses		1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	18,000
Materials and supplies (in COGS)		400	400	400	400	400	200	200	200	200	200	200	200	3,400
Furnitures and equipments		2,000	200	200	200	200	200	200	800	800	800	800	800	7,200
Office expense		300	300	300	300	300	300	300	300	300	300	300	300	3,600
Other interest expense		100	100	100	100	100	100	100	100	100	100	100	100	1,200
Repairs and maintenance		200	200	200	200	200	200	200	200	200	200	200	200	2,400
Supplies		100	100	100	100	100	100	100	100	100	100	100	100	1,200
Taxes and licenses		100	100	100	100	100	100	100	100	100	100	100	100	1,200
Utilities		500	500	500	500	500	500	500	500	800	800	800	800	7,200
Wages		3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	7,000	7,000	7,000	7,000	56,000
Promotion spending		12,000	12,000	12,000	8,000	8,000	8,000	8,000	8,000	8,000	4,000	4,000	4,000	96,000
Miscellaneous														0
SUBTOTAL		44,900	21,900	41,900	17,900	17,900	17,700	17,700	39,500	22,100	18,100	18,100	18,100	295,800
Loan principal payment														0
Capital purchases														0
Other startup costs														0
To reserve and/or escrow														0
Owners' withdrawal														0
TOTAL CASH PAID OUT		44,900	21,900	41,900	17,900	17,900	17,700	17,700	39,500	22,100	18,100	18,100	18,100	295,800
Cash on hand (end of month)	120,000	79,800	63,540	28,690	20,190	14,040	9,500	10,600	1,650	24,200	68,140	129,470	210,070	
Annul profit		90,070												
Profit Margin		42.88%												
ROI		75.06%												



B. Cash flow Chart for best case scenario

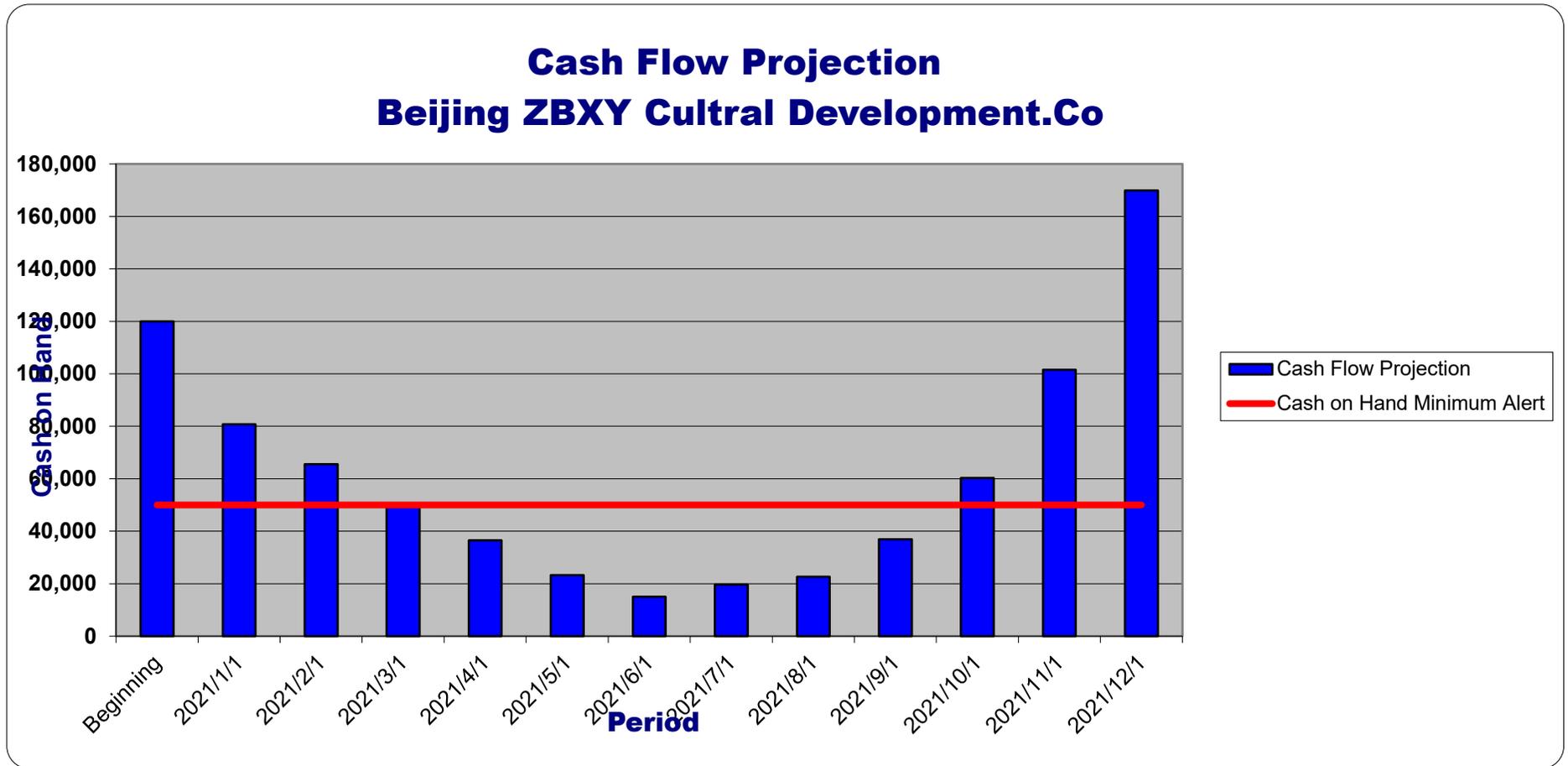


C. Cash flow projection for estimated scenario

Cash Flow Projection														
Beijing ZBXY Cultral Development.Co														
Starting date	2021/1/1													
Cash balance alert minimum	50,000													
	Beginning	2021/1/1	2021/2/1	2021/3/1	2021/4/1	2021/5/1	2021/6/1	2021/7/1	2021/8/1	2021/9/1	2021/10/1	2021/11/1	2021/12/1	Total
Cash on hand (beginning of month)	120,000	120,000	80,800	65,500	50,650	36,475	23,200	15,050	19,600	22,650	36,950	60,250	101,550	
CASH RECEIPTS														
Number of subscription		100	120	130	145	165	190	250	350	600	800	1,200	1,800	
Cash sales		4,500	5,400	5,850	6,525	7,425	8,550	11,250	15,750	27,000	36,000	54,000	81,000	263,250
Collections on accounts receivable														0
TOTAL CASH RECEIPTS		4,500	5,400	5,850	6,525	7,425	8,550	41,250	15,750	27,000	36,000	54,000	81,000	293,250
Total cash available	120,000	124,500	86,200	71,350	57,175	43,900	31,750	56,300	35,350	49,650	72,950	114,250	182,550	
CASH PAID OUT														
Advertising														0
Office rental		3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	36,000
Vehicle purchase		20,000						20,000						40,000
Insurance (other than health)		1,200												1,200
Travel expenses		500	500	500	500	500	500	500	500	500	500	500	500	6,000
Materials and supplies (in COGS)		200	200	200	200	200	200	200	200	200	200	200	200	2,400
Furnitures and equipments		2,000	200	200	200	200	200	200	200	200	200	200	200	4,200
Office expense		300	300	300	300	300	300	300	300	300	300	300	300	3,600
Other interest expense		100	100	100	100	100	100	100	100	100	100	100	100	1,200
Repairs and maintenance		200	200	200	200	200	200	200	200	200	200	200	200	2,400
Supplies		100	100	100	100	100	100	100	100	100	100	100	100	1,200
Taxes and licenses		100	100	100	100	100	100	100	100	100	100	100	100	1,200
Utilities		500	500	500	500	500	500	500	500	500	500	500	500	6,000
Wages		3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	42,000
Promotion spendings		12,000	12,000	12,000	12,000	12,000	8,000	8,000	4,000	4,000	4,000	4,000	4,000	96,000
Miscellaneous														0
SUBTOTAL		43,700	20,700	20,700	20,700	20,700	16,700	36,700	12,700	12,700	12,700	12,700	12,700	243,400
Loan principal payment														0
Capital purchases														0
Other startup costs														0
To reserve and/or escrow														0
Owners' withdrawal														0
TOTAL CASH PAID OUT		43,700	20,700	20,700	20,700	20,700	16,700	36,700	12,700	12,700	12,700	12,700	12,700	243,400
Cash on hand (end of month)	120,000	80,800	65,500	50,650	36,475	23,200	15,050	19,600	22,650	36,950	60,250	101,550	169,850	
Annul profit		49,850												
Profit Margin		29.35%												
ROI		41.54%												



D. Cash flow chart for estimated scenario



F. Cash flow chart for worst case scenario

