



SUPERBUYER

Your Grocery Shopping Companion

IS3101 MANAGEMENT OF INFORMATION SYSTEMS
AY 15/16, SEM 2, TEAM 2

DERIAN PRATAMA TUNGKA
ISMAHFARIS BIN ISMAIL
ALBERTO AGUILAR BAEZ
YANG HONGSHUO

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1. Executive Summary

Queuing at the supermarket is a hassle for everybody. Customers would rather be doing other stuff and the store would like to satisfy their customers by making things easier and quicker. SuperBuyer is a mobile app that lets customers at supermarkets perform self-checkouts. By simply scanning barcodes with the camera on smartphones, users are adding items to their list. When done, simply press the checkout option and have the total amount charged to the credit card you have entered previously into the system, or you can go to one of the self-service kiosks and pay by cash. This product makes going to the supermarket a seamless experience and increases satisfaction of customers towards the stores which implement this system. Besides that, stores will see reductions in their operational costs as there will be less of a need to have traditional checkout centers operating. To further improve the customer relationship, the app allows the customer to see the optimal shopping route in the store, according to their shopping list. This helps stores with crowd management and also customers by helping them shop with minimal time wasted.

2. Introduction

2.1 Our Mission

We seek to revolutionise the way we shop in supermarkets by developing a cheaper, faster and more convenient system for shopping that will rival the experience of online grocery shopping.

2.2 Our Story

We are a group of undergraduates from the School of Computing in National University of Singapore, with a passion in applying our knowledge in IT to solve real world problems. We discussed in length about the different areas of our daily lives that we could improve through the application of IT. After much deliberation, we concluded that we shared common frustrations when shopping in supermarkets, such as time wastage in locating products, long queues and overcrowding.

We were inspired to come up with an innovative solution to solve these issues. Thus, we have conceptualized a mobile application, SuperBuyer, which we felt adequately addresses the common problems we shared through its practical features.

3. Market Analysis

3.1 Target Market and Industrial Trends

Our product SuperBuyer is targeted towards supermarkets that require daily transaction services. According to each of their websites, FairPrice and Giant, two of the biggest chains of supermarkets in Singapore, have 129 and 59 stores, respectively (About Us : FairPrice, 2016, About Us: Our Retail Format, 2016). Between 2015 and 2016, retail sale index for Supermarkets increased 7.5% year on year (Singstat.Gov, 2016). There are many supermarkets in Singapore and still, these supermarkets usually have long queues for the process of checking out. During certain hours, weekends and holiday seasons, the supermarkets are packed with customers. This creates a need for more cashiers to be working to be able to satisfy the demands.

The Unique Selling Proposition (USP) of SuperBuyer lies in its ability to reduce cashier transactions within stores whilst improving customer convenience in finding their desired products. This helps to maximize the firm's profits in contrast to its competitors. We aim to use this unique advantage to encourage supermarkets that are looking to provide easier access and faster transactions of goods for their own patrons to adopt SuperBuyer in their system and increase customer satisfaction.

3.2 Competitive Analysis

Porter's Five Forces are used to better understand our competitive advantages:

3.2.1 Competitors

As of right now, in Singapore, there is no mobile app that offers the services our platform would. There is a known company, Scandit, that develops different products related to barcode scanning and one of them is a mobile app for grocery shopping (Products, 2016). However, Scandit does not develop a comprehensive application like SuperBuyer which is specifically targeted to the grocery shopping industry. Currently, the retail store Coop, in Switzerland uses a barcode scanning application by Scandit and claims to have over 280,000 users in 100 different locations (Scandit News, 2015). However, they have no intention to enter the Singapore market and this gives us the opportunity to obtain first-mover advantages in Singapore.

3.2.2 New Market Entrants

Currently there is no similar service that presently exists in Singapore. Our team will possess the first mover advantage and the ability to set high barriers to entry by establishing a good relationship with our clients and conducting continuous research and development to make SuperBuyer less replicable.

3.2.3 Substitutes

Our service augments the traditional supermarket retail model. Since online grocery shopping is a direct substitute to our clients, it will be an indirect substitute to our service. Redmart is the most prominent online grocery shopping service in

Singapore. Redmart offers home deliveries 7 days a week, with competitive prices and a large offering of 25,000 products in stock (About: Redmart, 2016). In a country with a hectic and fast paced society like Singapore, online grocery shopping presents a new level of cost effective convenience. This has led to an increasing number of Singaporeans buying their groceries online (TechInAsia: Articles, 2015).

Online grocery shopping is clearly an excellent substitute to traditional brick and mortar supermarkets. However, browsing the plethora of groceries available along the aisles of supermarkets is an experience in itself. A lot of people enjoy the supermarket experience and prefer to handpick the products they want, especially when it comes to fresh products such as fruits, vegetables, meats, etc. The main reason why people use online shopping is because of time spent at the supermarket, if our application is able to significantly reduce time wastage at the supermarket then this reason is not valid anymore.

In a bid to remain competitive in the midst of online grocery shopping, traditional supermarkets are looking for ways to improve their existing processes and the overall experience of their customers. SuperBuyer presents a unique and innovative solution, and fits into this niche requirement.

3.2.4 Customers

Supermarkets would be our prospective clients, for which they would procure our application system and integrate it to their business model. Shoppers will also utilise the application to value add their shopping experience. We have to carefully consider how we can make SuperBuyer mutually advantageous for both parties.

3.2.5 Suppliers

Our system does not rely on sourcing from any suppliers. Its main implementation stages involve shipping and maintaining SuperBuyer in the public application domain, followed by coordinating with our clients to perform outlet by outlet integration. We plan to integrate the SuperBuyer Transaction Processing Software (TPS) with existing self-service kiosk at supermarkets, as an added option during checkout. All major supermarket chains in Singapore now have self-checkout kiosks in place, albeit not at all outlets (Retail News, 2015, Press Releases, 2011). As of October 2015, FairPrice has started implementing iCash machines, which will allow self-checkout kiosks to accept cash as payment instead of only credit (Singapore News, 2015).

In light of this new implementation, we can conveniently integrate our application with the self-payment system at FairPrice outlets which have iCash machines in place, without the need to produce cash machines or whole kiosks. In the event that supermarket outlets do not possess any self-checkout systems, we will then bear the costs of producing and installing custom SuperBuyer kiosks for these outlets. These kiosks will be efficient and specialised to perform solely SuperBuyer processes, in order to minimise manufacturing costs.

4. SuperBuyer

4.1 Presenting Our Application (Refer to Appendix for screenshots)

SuperBuyer consists of 3 unique features, mainly the AisleSurfer, QuickShop and Scan N Pay. These features serve to complement one another so that shoppers can have improved customer experience and supermarkets can achieve improved productivity in their operational processes.

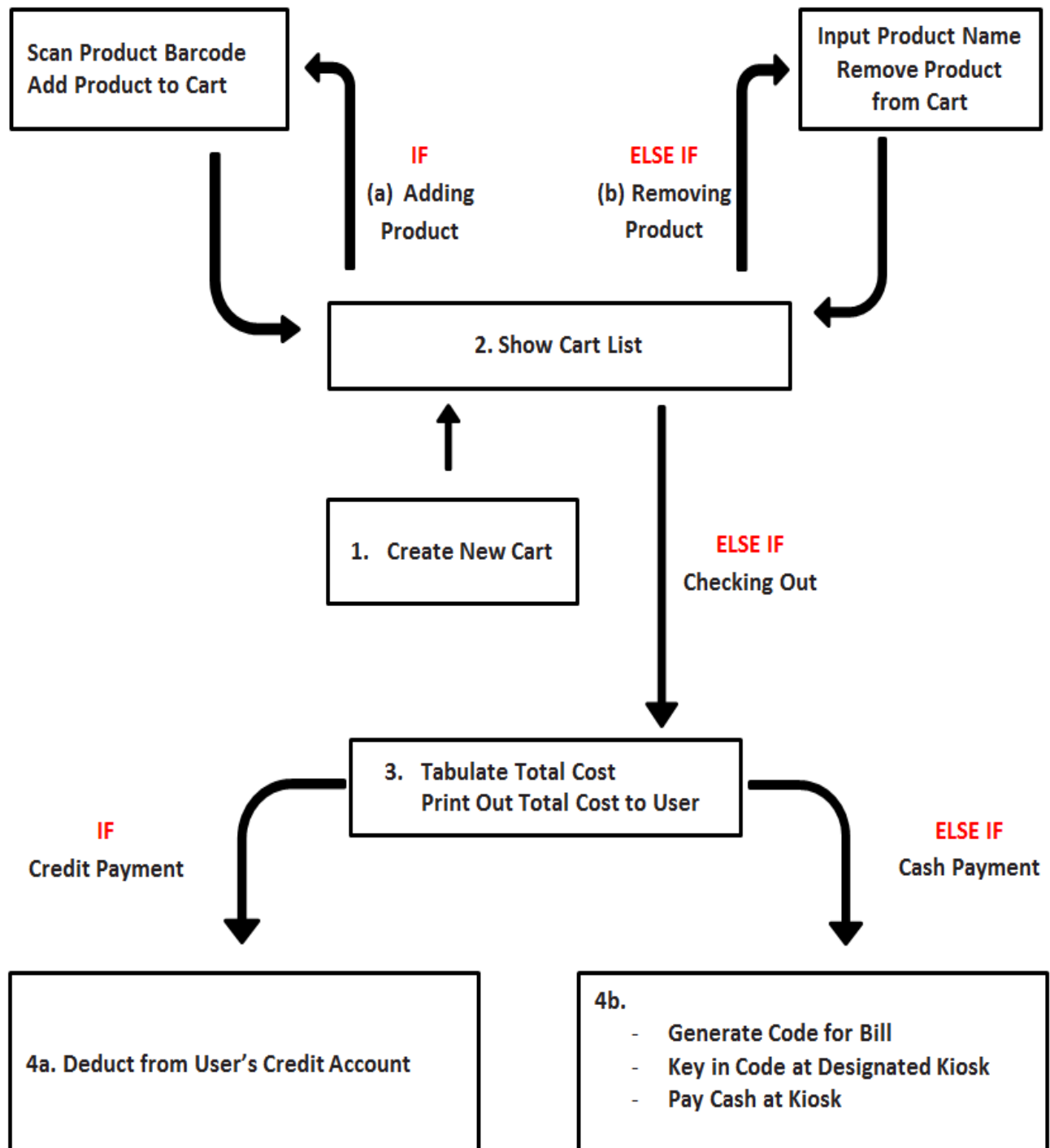
AisleSurfer serves to recommend users with the best route to follow in order to retrieve their desired products within the outlet. Based on their choice of products, AisleSurfer will generate a map for the user, consisting of both visual and written directions to retrieve their products quickly. This is especially useful to users who are visiting large supermarkets. It will allow them to go directly to the aisles they need instead of browsing through the signage or moving along all the aisles, thus improving the shoppers' convenience.

QuickShop enables users to earn rebates if they enter and leave the store within a specified period of time after purchasing their products. Based on the number of products a user intends to purchase, the user will be given an estimated time to visit the supermarket, and the goal is to complete the purchases and leave the premises within the time limit to attain the rebate. This incentivises customers to carry out timely purchases thus reducing congestion at supermarkets especially during peak periods. By managing the congestion, supermarkets can benefit from the higher frequency of shoppers and business transactions within their stores thus helping to boost the supermarket's overall revenue and profits.

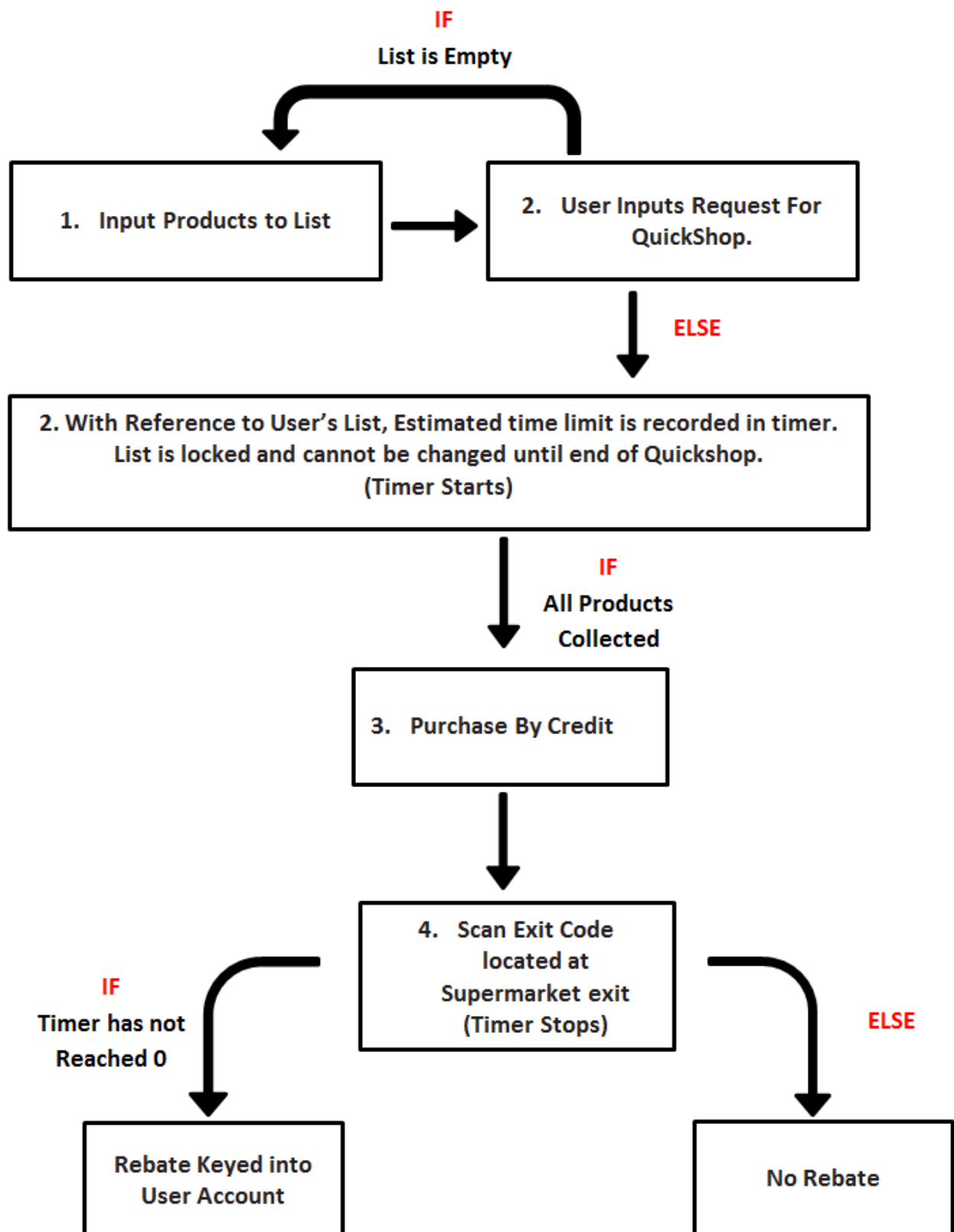
Scan N Pay feature is primarily designed to allow users to independently purchase their products simply by scanning the product barcode through their smart phones. By scanning the barcode, users will be adding them into their own virtual cart as well as keeping them physically. Once the user completes his shopping, a bill will be generated based on the products from the cart. The user then chooses to purchase the products either through credit or cash. Payment through credit allows the user to simply purchase the products with a click of a button before leaving the supermarket. Otherwise, if the user chooses to pay through cash, a code will be generated. The user then has to proceed to a kiosk to key in the code and the total amount displayed will need to be inserted in cash by the user.

4.2 Pseudocode and Analysis

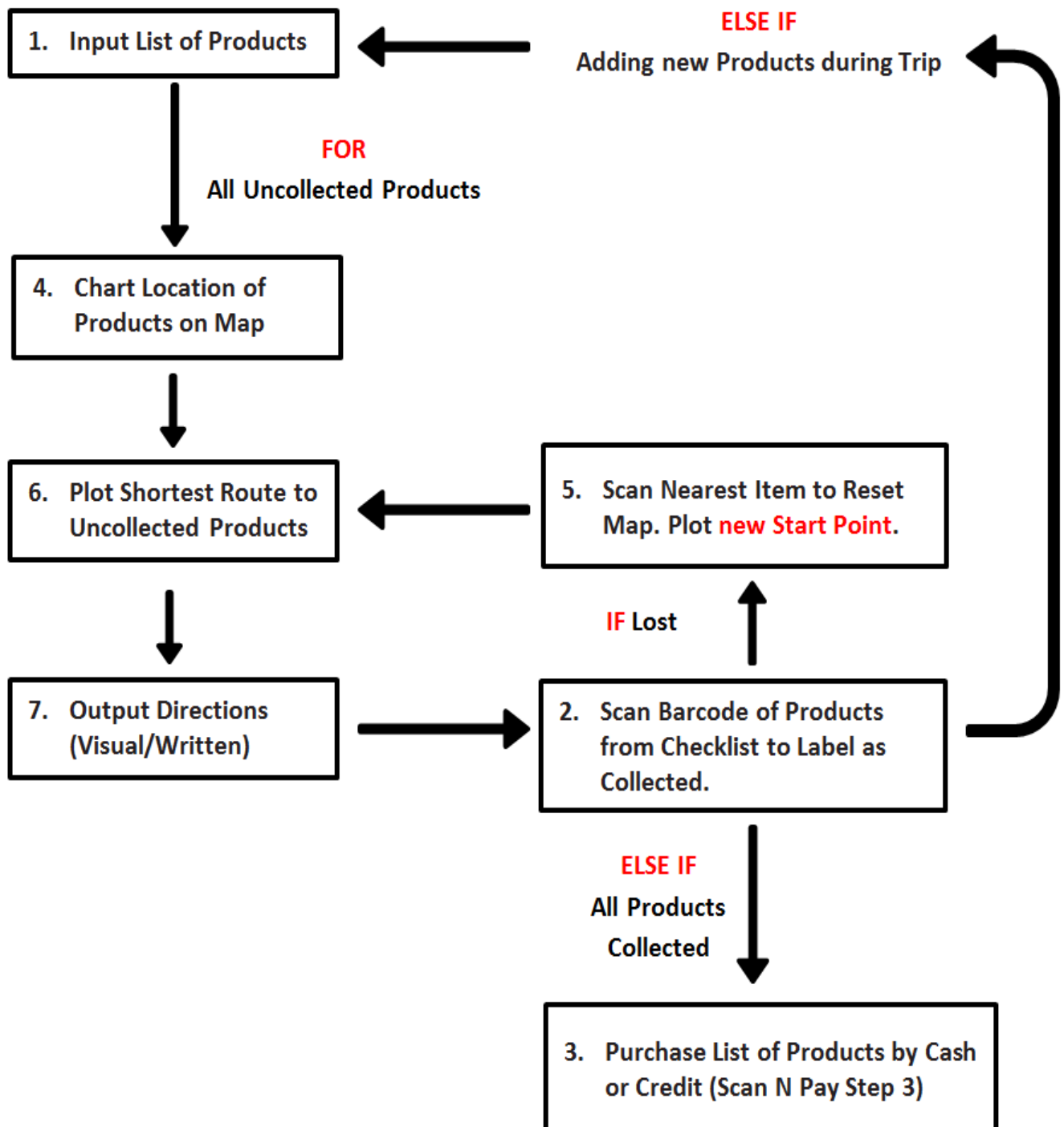
4.2.1 Scan N Pay



4.2.2 QuickShop



4.2.3 AisleSurfer



4.3 Quality Control and Ongoing Service

Quality control and servicing is required to maintain the transaction kiosks. While it is important to keep the kiosk running continuously for customers, special attention is needed to ensure that the kiosk is not vulnerable to malicious attacks that could potentially hamper its reliability and disrupt the business process. Time and money should be invested on the kiosk's security features to ensure that it can prevent security breaches and protect the safety and privacy of its buyers in the long run.

5. Marketing SuperBuyer

5.1 Encouraging Clients to Adopt SuperBuyer

We will leverage on the USP of SuperBuyer to convince our retail clients that adopting this application system is the right step towards streamlining their retail business model. Adopting an information and communications technology (ICT) based solution will allow our clients to cut back on the manpower needed for day to day operations. Reduction in manpower will save the clients from unforeseen expenses incurred when employees call in sick or take leave. Furthermore, the overhead cost of maintaining a large labour force is high, due monthly wage expenses.

Although the setup costs of SuperBuyer may be high, the maintenance and operational costs of this application based system will be much lower. Over time, the cost savings will offset the initial setup costs and this will result in a lower Total Cost of Ownership (TCO) of SuperBuyer when compared to the overhead costs of maintaining a larger workforce. This will then provide our clients with excellent Returns on Investment (ROI) in the long run. With that being said, adopting a modern ICT solution is a way for our client to safeguard against future disruptions in their respective retail industry.

5.2 Early Adopter Promotions

In order to further encourage more supermarkets to adopt SuperBuyer, we will offer a 1 month free trial period to interested supermarkets, with no subscription costs. This will allow them to test the deployment and suitability of our application to their business operation.

5.3 Outreach & User Retention Strategies

The key to the success of SuperBuyer lies in its adoption rate among supermarket consumers. Achieving a high adoption rate is reliant on high exposure of the application to the general public, and also our ability to retain current users. To achieve high exposure, we will advertise on social media platforms (Facebook, Instagram, etc.) through advertisements and sponsoring of high-profile influencers.

In order to achieve high user retention, we intend to actively engage with our user base and constantly improve our product based on our customer feedback. We will work with a software provider to develop a customer experience management software tailored to our application model. Utilising this software, we will conduct regular feedback exercises through consumer polls and reviews so that we can listen

to our users and improve SuperBuyer into an application that our users will be happy to use. Additionally, participating supermarkets will be advertised to SuperBuyer users on the application, and will also be featured weekly on our social media. Special rebates will be offered to users should they patronise the featured stores.

6. The Financial Information

6.1 Generating Revenue

Our main revenue stream will be from clients looking to advertise their products on SuperBuyer. We provide 3 different tiers for product placement on our application, with varying services offered with each tier. We will provide Search Engine Optimisation (SEO) and Data Analytics, and our clients can attain these services with higher subscription fees. This price structure is reflected in Figure 1.

Through the transactional data collected from SuperBuyer, such as user demographics and their spending habits, we will be well positioned to provide clients with additional data analytics service. Clients will be able to draw the results from these analyses to carry out more effective advertising campaigns or modify their product offerings.

We will also provide SEO services to our clients, by directing more hits to their product placements on our SuperBuyer official homepage and social media sites. SEO algorithms will also be applied within our application, by allowing our clients' products to appear first on the list as compared to non-paying clients. For example, if a user searches for "milk", the relevant milk product of our paying clients will appear on top of non-paying clients.

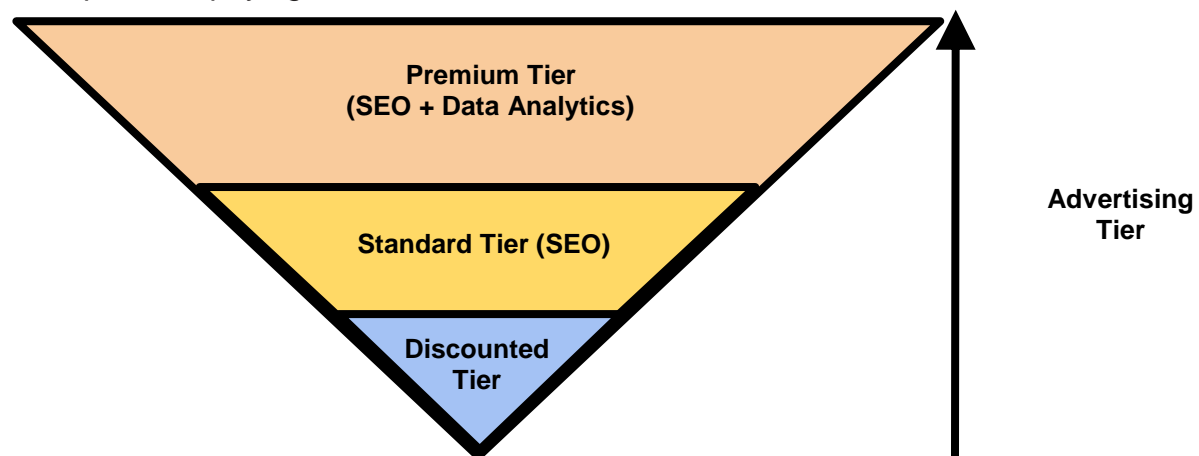


Figure 1

Our secondary revenue stream will be from our supermarket clients. In order to ensure that smaller supermarket chains can remain competitive with the more established supermarket chains, our subscription model is centred on the monthly transaction volume through the SuperBuyer application. Once amount of purchases via SuperBuyer reaches a measurably large number, they will then have to pay a higher subscription fee. This subscription fee model, as reflected in Figure 2, ensures that we are able to retain our participating stores and allow steady flow of revenue based on the active use of SuperBuyer.

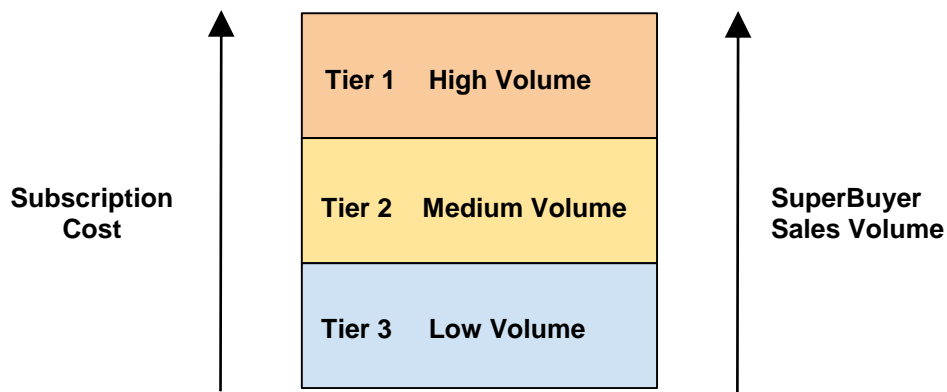


Figure 2

6.2 Our Funding Request

The initial stages of our app development will be financed mainly through equity investments from our management team. We will apply for an ACE grant from SPRING Singapore to obtain a start-up grant of S\$50,000 (ACE Startups Grant, 2016). Debt financing like loans from banks might be required if the cost was significantly higher than our estimations.

At later stages of our app development, we will accept investments from venture capitalists for an equity stake of no more than 15%. This round of financing will mainly be used for marketing and further research and developments to improve the functionalities of our app. Equity investments from our business partners like supermarkets and supermarkets will also be welcomed.

6.3 Payback and Exit Strategy

Investments during our app development stage will be locked in and investors can only choose to exit after our application becomes operational for at least 3 years.

Our performance will be monitored and measured constantly against operational benchmarks and returns required by investors. If our business continues to make losses and fails to generate values for our stakeholders, the investors have the right to call for meetings to re-evaluate the feasibility of the business. In an extreme situation where the business cannot continue to operate, investors may choose to sell their shares back to the management team, with 50% of initial investment guaranteed.

7. Conclusion

Our team feels that adopting SuperBuyer is the right step forward for traditional supermarkets to stay competitive in this digital age, and also to remain resistant to technological disruptions such as online grocery shopping. The features exhibited by SuperBuyer offer new levels of utility and convenience at the fingertips of shoppers, which have been unavailable hitherto. This improved experience is unique and cannot be replicated by other supermarkets which do not adopt SuperBuyer. Our clients will have increased industry competitiveness whilst also increasing brand loyalty for them, at the same time providing the timeless experience of shopping in a supermarket. As a result, our clients will continue to remain relevant in the years to come.

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9. Appendix

