

The Research of A Random Restaurant Recommendation Platform

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Abstract. Students often find it hard to decide what to eat when it is lunch time. Therefore, constructing a restaurant recommend website that randomly selects a restaurant as a recommended restaurant will help students shorten their decision time. Students can also learn restaurant information from this website, such as phone number, address, menu, and business hours. The website can bring students from National Tsing Hua University together so that the restaurants nearby can benefit greatly if they advertise on it. This website provides advertising for the restaurants nearby. The owners of them can also issue coupons which, using QR code, assist restaurant operators in retrieving coupons and delivering paperless coupons. The web site architects can get advertising revenue from the restaurants' owners to achieve win-win results platform economy.

Keywords. Platform economy, QR code

1. Introduction

Deciding what to eat is a decision people are faced with every single day, and it is also a question that students and office workers frequently doubted for a long period of time, often not knowing what to eat and have long decision time. Therefore, if there is a mechanism to help select a restaurant and shorten the decision-making time will help to solve the problem. This study constructs a restaurant recommended website in combination with the mechanism. This mechanism is mainly to select a recommended restaurant to the user, so that users do not need to worry about what to eat. However another problem is how to choose the restaurant? Because the users have no opinions, even they do not choose the foods they like. So we can think out of box. We do not use the user's habits and preference data to construct the recommended mechanism. The mechanism gives a random recommendation of the restaurant. Using a random recommendation model to recommend consumers that they may get a different answer than usual and eating a restaurant that they have never eaten before, and they do not have to be bothered to decide on the restaurant or waste a lot of decision time. In addition, the mechanism this paper constructed also includes the function of removing the option (restaurant). That is, if the restaurant selected does not meet the expectation of the consumer, the consumer can remove the option from the random lottery system and re-select the lottery. However, sometimes the users want to eat specific types of food, the thematic lottery system may be set. For example, students are having a hard day today, so they especially want to eat more expensive meals to reward themselves but do not know which restaurant to choose. We can construct a high-priced restaurant random

recommended system (high-priced lottery system, the thematic lottery system). Therefore, a number of different themes of the lottery system is set up for users to meet their needs.

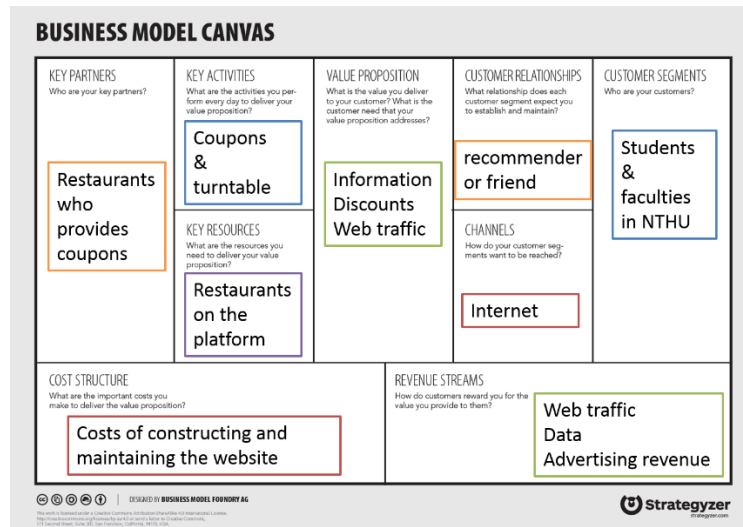
This study combines the mechanism with restaurant information on the website to develop a restaurant recommendation platform. Consumers can get a recommended restaurant through this website and learn about the restaurant information from the website like menu, business hours, phone numbers, and address. The website provides consumers a full package of solutions for eating meals, what to eat, where to eat, when to eat, which to eat...etc. It provides options and solutions for the options. In addition to providing consumer options and solutions, this study provides advertising and issuing coupon function to the restaurant owners. This site is expected to bring together consumers so if the restaurant advertisements or coupons attached on the website, the advertising effectiveness could be maximize.

Business functions on the site are advertising and coupon issuing. Restaurants' owners can buy ads to the block on the website, and with the revealing on the site the restaurants can improve their advertising effectiveness because of the website traffic. The restaurants can also be registered as a member of the platform (website), so they can use the functions for members only to issue electronic coupons on the platform. And each of the electronic coupons has its own unique number, and the restaurant does not need to download another app to check the electronic coupons. The coupons use QR code as its identification. And the restaurant employees only need to use QR code scanner to scan the QR code to confirm which coupon it is and whether it has been used.

The website not only connects the consumers with the restaurants, but also it can earn some money from the procedure to achieve a triple-win situation. What provided to consumers is free service, and they do not need to join the membership to use such service in order to attract website traffic, increasing the number of users. And then by charging advertising costs from restaurants, the platform industry can be rewarded. This business model is similar to YouTube and Google, providing free and high quality service, and then benefit from high traffic.

Therefore, this website will attract the restaurants nearby Tsinghua University to utilize it, such functions as advertising or issuing coupons, and consumers to use the function of restaurant recommendation and receiving coupons. The website becomes a medium which lets others connect to it and gather more businesses and consumers, which formed a platform economy.

In addition, this also forms a new business model with sources of revenue and important customer base. The business model canvas can be used to represent the business model. It is as shown in figure below.



The business model of the random restaurant recommendation platform

The paper is organized as follows. There is an introduction in chapter 1. Chapter 2 will review several concepts used in the study. Chapter 3 illustrates the methodology and the framework of this study. Case study is discussed in chapter 4. Conclusions and potential research issues for future study are given in chapter 5.

2. Literature review

A platform business can be defined as a medium which lets others connect to it. MIT Professor Michael Cusumano defines a platformeconomy as follows “A platform or complement strategy differs from a product strategy in that it requires an external ecosystem to generate complementary product or service innovations and build positive feedback between the complements and the platform. The effect is much greater potential for innovation and growth than a single product-oriented firm can generate alone.” And the platform business becomes more and more important nowadays can be described as follows. “*In the platform world, the Internet is no longer just a pathway, it is also an infrastructure that creates value and a mechanism for integrating and collaborating. Now, many platform companies take advantage of these new capabilities to create entirely new business models. In addition, the physical and digital worlds are rapidly consolidating. The Internet has been able to link and integrate things that coordinate the real world. For example, smart phone apps allow us to remotely control the home appliances and equipment in the home. At the same time, the platform also creates value through the use of external ecosystems in new ways, redefining organizational boundaries.*” (Platform Revolution by Geoffrey Parker, Marshall Van Alstyne, Sangeet Paul Choudary)

A business model describes the rationale of how an organization creates, delivers, and captures value, in economic, social, cultural or other contexts. The process of business model construction is part of business strategy. And the business model canvas

can be used to illustrate how the business model works. Business Canvas Model is one of the tools that startup teams and mentors use often to help teams to quickly discuss and create a business model, through a graphical approach. There are nine segments separate in the canvas and the descriptions of each segment is as follows. Key Activities: The most important activities in executing a company's value proposition. An example for Bic, the pen manufacturer, would be creating an efficient supply chain to drive down costs.

Key Resources: The resources that are necessary to create value for the customer. They are considered an asset to a company, which are needed in order to sustain and support the business. These resources could be human, financial, physical and intellectual.

Partner Network: In order to optimize operations and reduce risks of a business model, organizations usually cultivate buyer-supplier relationships so they can focus on their core activity. Complementary business alliances also can be considered through joint ventures, strategic alliances between competitors or non-competitors.

Value Propositions: The collection of products and services a business offers to meet the needs of its customers. According to Osterwalder, (2004), a company's value proposition is what distinguishes itself from its competitors. The value proposition provides value through various elements such as newness, performance, customization, "getting the job done", design, brand/status, price, cost reduction, risk reduction, accessibility, and convenience/usability.

Customer Segments: To build an effective business model, a company must identify which customers it tries to serve. Various sets of customers can be segmented based on the different needs and attributes to ensure appropriate implementation of corporate strategy meets the characteristics of selected group of clients.

Channels: A company can deliver its value proposition to its targeted customers through different channels. Effective channels will distribute a company's value proposition in ways that are fast, efficient and cost effective. An organization can reach its clients either through its own channels (store front), partner channels (major distributors), or a combination of both.

Customer Relationships: To ensure the survival and success of any businesses, companies must identify the type of relationship they want to create with their customer segments.

Cost Structure: This describes the most important monetary consequences while operating under different business models.

Revenue Streams: The way a company makes income from each customer segment.

The business model of the study is similar to the one of Google or YouTube. The business model of YouTube is as freemiums. At the beginning, freemiums is a loss of money but a point where you reach a certain number of premium users, you will start making money. At that point, profit becomes bigger than cost and this freemium model will start to pay off.

3. Method

The aim of this paper is to establish a random restaurant recommendation platform, which could randomly select and recommend a restaurant to customers.

The methodology in this paper is divided into three parts. Phase I constructs a website which includes several restaurant information pages.

And Phase II puts a lottery turntable of restaurants nearby Tsinghua University on the website.

Phase III is issuing coupons system establishment. This study integrates issuing coupons system establishment with the membership system in the platform to help restaurants in the platform to issue coupons in order to attract more customers.

3.1 Phase I: The Framework of Website Building Up

We firstly construct the framework of the website which uses html to build up for constructing a place to put the lottery turntable which will be elaborates in the next part on. The website we constructed is a Responsive Web Design (RWD) website. Responsive Web Design is about using HTML and CSS to resize, hide, shrink, enlarge, or move the content to make it look good on any screen. So it makes your web page look good on all devices (desktops, tablets, and phones), as shown in figure 1. And we also construct several restaurant information pages, including the information like phone numbers, address, the menu, and business hours of the restaurant in the website. The look of the website would be illustrated in Chapter 2.

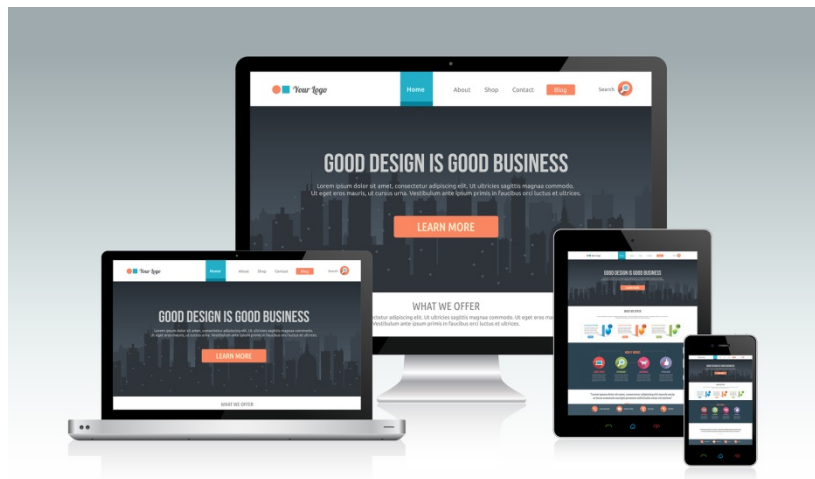


Figure 1. The concept of Responsive Web Design

3.2. Phase II: Lottery Turntable Establishment

In order to recommend a restaurant to customers, this study establishes a lottery turntable of restaurants to random select a restaurant for recommendation. This study uses an embedded web page to construct the lottery turntable. The function of the lottery turntable would be illustrated in Chapter 2.

3.3. Phase III: Issuing Coupons System construction

This study established an issuing coupons system to let the restaurants registered in the platform offer discount to their customers. And each of the coupons needed to be the

The restaurant information pages in the platform is as shown in Figure3.



Figure3 Restaurant information page

The register page of the restaurants in the platform is shown in Figure4.

姓名

Email

密碼

[登入](#)

Figure4. Register page of the restaurants in the platform

The login page of the restaurants in the platform is shown in Figure5.

Email

密碼

[註冊](#)

Figure5. Login page of the restaurants in the platform

4.2 Phase II: Lottery Turntable Establishment

The interface of the lottery turntable is as shown in Figure6.



Figure6. The interface of the lottery turntable.

The lottery turntable will randomly select a restaurant to recommend the user of the platform and the image after selecting the restaurant is as shown in Figure7.



Figure7. After selecting the restaurant

If the user doesn't like the restaurant it recommended, he can remove it from the lottery turntable. He just needs to click "Remove!" under the selecting result. The image of after removing one of restaurants is shown as Figure8. You can see that "甘泉魚麵" was removed from the turntable. It doesn't show in Figure8.

in the platform, and in the future it can be done to the restaurants around the various colleges and universities, such as Taiwan University version, National Chengchi University version...etc. Second, since the membership system has been established, it can be combined with the booking system in the platform in the future. Third, after randomly selected stores, php can be used to interpret the selected lottery and the following button can jump directly to the information page of the selected store.

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