Shopmate: An Innovative Comparison Shopping Apps

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Abstract – *This paper discusses an innovative mobile application system named Shopmate which offer solutions to problems faced by online shoppers regarding the difficulties in searching and comparing price of specific item from different online stores. Background of problem, commonly faced by online shoppers are thoroughly described in this paper to give an understanding on the problem surrounding the need of Shopmate application. Analysis of market study, among online shoppers is presented to justify the need of proposed Shopmate application. Competitiveness of Shopmate among other e-commerce applications is measured in this study by an industry analysis. The features of the proposed apps are refined and strengthened using ERRC grid. Results of the analysis conducted in this study shows that the proposed Shopmate application is able to accommodate and address problems faced by online shoppers regarding online comparison shopping that involve multi online stores. **Copyright © 2015 Penerbit Akademia Baru - All rights reserved.**

Keywords: online shoppers, comparison shopping, mobile application system, market study, online stores

1.0 INTRODUCTION

Online shopping is an electronic commerce that allows consumers to buy goods or services using internet connection. Since the advanced development of the internet and computer-based technologies such as laptops and smart phones, e-commerce has been widely used and its growth has never fluctuated. The existence of e-commerce and the blooming of online stores improve and enhance the activity of acquiring items or goods. Everything is at the fingertip as buyers just need to make a few clicks on the mouse of their computer to purchase item.

For security and financial reasons, when buying products and goods from online stores, buyers tend to do a lot of search and surveys until they are satisfied with the price, condition, and service offered at the chosen store. The problem faced here is that this search and survey process is time consuming. Purchasing an item requires a serious buyer to search and survey up to four or five online stores for the best price before considering buying it. A typical buyer will research that specific item in terms of its appearance, user review and expert review from multiple sources and sites. This comparison shopping behavior is more aggressive among buyer with higher level of education and personal income as their background correspond to more favorable perceptions of shopping online [1]. In addition, increased exposure to the technology increases the probability of developing positive attitudes towards new shopping channels.

Comparison shopping becomes a pre-requisite to most on-line shoppers in Malaysia with recent implementation of the goods and services tax (GST), where the price of goods varies significantly at different stores. An online bargain shopper will be very selective when purchasing specific. For online sellers, different business models were adopted at different stores, causing price to be varies across stores. Varying prices across stores and behavior of online shoppers contributes to the need of a platform or apps that ease the comparison shopping activities among online shoppers. In this paper, problems faced by online shoppers and shopaholics when shopping through online stores are thoroughly discussed and an innovative shopping app is proposed to overcome the problems. The beginning section of this paper presents literature review on issues surrounding online shopping. This is followed by discussion on problems of online comparison shopping that leads to the proposal of an apps i.e. Shopmate. The feasibility of the proposed product is then, described in terms of market and industrial analysis. The paper continues with business analysis that refines the proposed product and ends with the conclusion and discussion.

2.0 LITERATURE REVIEWS

With the fast growth of the World Wide Web, and increased ownership of personal computers [2], online shopping has quickly become a part of the human lifestyle. Shopping or buying with a mobile device (M-shopping) has become an increasingly important topic that has drawn much attention in both industry and academia [3]. Internet shopping is characterized by risk and uncertainty for customers. Therefore, theories that explain human behavior under conditions of risk and uncertainty can shed light on customer behavior in the context of Internet shopping. Two such theories are the prospect theory [4] and the mental accounting theory [5].

There are numerous research conducted by researchers concerning online shopping. An empirical typology of online decision-making purchasing behavior has been proposed by [6]. The study explores how the online purchase process is affected by individual decision-making style and knowledge of product. Price and trust are considered to be two important factors that influence customer purchasing decisions in Internet shopping [7]. The paper examines the relative influence they have on online purchasing decisions for both potential and repeated customers. Analysis of the individual decision of online shopping, in terms of socioeconomic characteristics, Internet related variables and location factors have been conducted by [8]. Social shopping promotions from a social merchant's perspective that compares two most popular types of social merchants i.e. restaurants and healthcare services in terms of seven key factors that influence a merchant's sales, using a Groupon promotion has been proposed by [9].

As mentioned in section 1.0, comparison shopping is tedious and difficult. The method, people, market, machine, and the product are the factors that contribute evenly to the difficulties. For this study, the general setting we consider is a structure for a standard horizontal differentiation duopoly setting in which consumers demand, at most, one unit of goods from one of two stores in the market. We examine the marketability when these stores have the option to implement a loyalty program.

Consider a market where two stores, A and B, carry the same assortment of items over two specific periods of time. Each store is located at the end of a line of unit length. Both stores are readily available online to all consumers, so they have the option of purchasing an item at any one of these stores. For the sake of expositional simplicity, we make the following assumptions [5]: the prices of the products sold in each store may be different, trust and brand power of each store are at similar levels so they do not factor into influence the store selection by consumers. In addition, it is assumed that there is no entry or exit in the market for the two periods.

A lot of time, energy and money are required for a typical customer to search an item from one store to another. Evidently the method is very tedious and not efficient. A conventional method to search item

via on line is using Google search. However, undoubtedly it is known that clicking every single search result using Google search is a waste of time as some products are easily available at all stores while some, unfortunately, are not. If the customers took time to search at all stores but found that not all of them sell that product, they will have wasted their time and effort. This creates an idea generation of an innovative e-commerce shopping application known as *Shopmate*.

3.0 *SHOPMATE* – AN INNOVATIVE E-COMMERCE SHOPPING APPS

Shopmate is an application proposed for mobile devices that run on major mobile operating systems such as Android, iOS, and Windows Phone. The reason it is proposed to be developed for mobile devices is driven by a study conducted in December 2011 [6] which surveyed 1,500 online shoppers and found that 87% of tablet owners made online transactions with their tablet devices during the early phase of the holiday shopping seasons (e.g. Eid ul-Fitr, Chinese New Year, Diwali). This proposed application is targeted to help users to compare prices of items available in online stores, thus helping them to save time and money.

The proposed application i.e. *Shopmate* enables the searched item to be listed together with its prices from multiple online stores. When a customer utilizes the search function, the proposed application helps him to pick the lowest price for an item by placing the store with the lowest price for that particular item, topmost. This proposed application helps online shoppers in terms of time saved by comparing prices simultaneously where they normally would need to survey multiple sites separately. Items can then be directly bought using the application.

4.0 MARKET AND INDUSTRY ANALYSIS

Before launching a new product, a thorough analysis to minimize risk and enhance likelihood of success is recommended. In this study, market and industry analysis were conducted to evaluate online customer changing needs, competitors tactics and future needs of Shopmate. The analysis also allows us to evaluate viability of Shopmate among online shopper.

4.1 Market Analysis

A survey has been conducted among online shoppers to further validate the need of Shopmate. A set of questionnaires were randomly distributed to online shoppers who were the respondents of the survey. Based on the result of survey, it is evident that online shopping customers are experiencing problems in researching the price of products. As mentioned earlier, the problems mainly concern on availability of product at specific stores. The process to search for products at multiple online stores, one store after another, is proven to be very tedious and time consuming. The survey also reveals that most online shopper in Malaysia will search for the lowest price. Thus, the respondents have given positive feedback on Shopmate which would help them to search for their product, efficiently.

In conclusion, based on the survey that has been carried out, it is proven that Shopmate fulfilled the need of most online shopper. The process of online searching for desired products from a range of online stores can be facilitated by ShopMate at a shorter yet convenient speed of time.

4.2 Industry Analysis

The industry analysis carried out in this study measure the competitiveness of Shopmate market deriving its attractiveness. The following is the industry analysis of Shopmate.

Potential Competitors: Medium Pressure

1.   SmartShopper Malaysia, Smartshopper Switzerland, and Smart Shopper - Grocery Prices are among the apps available on Google Play Store. They list the prices of items available from retailers.
2.   SmartShopper Malaysia is able to list items as well as their prices at available retailers.
3.   SmartShopper Malaysia's disadvantage is that the update rate is slow.

Established Competitors: Low Pressure
1.   e-Smart Shopper is an app that can compare product prices across numerous e-commerce stores in India. A user can search for an item and the app lists the stores where it is available with its prices. The user can also browse through all available brands and the products under the selected category and check out the e-stores with the best prices.
2.   However, e-Smart Shopper can only list items in limited categories and despite their functionalities, e-Smart Shopper only works for India.

Substitute Products: Low Pressure
1.   There is currently no similar product that offers the same capability as Shopmate in the market.

Complementors: Low Pressure
1.   The complementor that exists for Shopmate is online stores. The online stores provide the price of the items to Shopmate.
2.   One of the online stores that ShopMate can collaborate with is LAZADA.
Market Growth: High Pressure
1.   Online shopping trend is currently growing in Malaysia. More and more people are shifting to online shopping.
2.   This current trend leads to the growth of some successful online stores such as LAZADA and ZALORA.
3.   Parallel with this growth, our business model which is comparing prices will always become a choice for shoppers to use because they will always look forward to saving their money and precious time.

Market Needs: Low Pressure
1.   Based on the response given by our respondents, more than 90% of them said that they are concerned with the price of the items when they shop.
2.   90% of the respondents agreed that they would be happy if there is an application that is able to compare prices among the online stores.
3.   40% of the respondents said they would definitely use this kind of product while 31% said that they would probably use this kind of product.

5.0 BUSINESS ANALYSIS ELIMINATE-REDUCE-RAISE-CREATE (ERRC)

An Eliminate-Reduce-Raise-Create (ERRC) grid is constructed in this study to highlight key features of Shopmate and to improve its business strength to compete in the marketplace. The itemization of the Eliminate-Reduce-Raise-Create (ERRC) grid for Shopmate is listed in Table 1 below.

Shopmate eliminates long product description as that feature will be time-consuming to browse through it. Registration and login is eliminated because there is no need for the system to keep the user's session. Unnecessary product images and fancy pages are reduced to decrease page loading time and increase efficiency. Customer's inputs are also reduced to decrease data inconsistency. Meanwhile, Shopmate increases the search accuracy and search option to give users better search results while increasing product variety to give online shoppers more products to choose. Shopmate creates a feature that enables online shoppers to search and compare prices between stores, as well as store rating function based on products/services.

Table 1: Eliminate-Reduce-Raise-Create (ERRC) Grid for Shopmate

Eliminate	Reduce	Raise	Create
• Long product description • Registration & Login	• Unnecessary product images • Fancy pages • Customer's inputs	• Search accuracy • Search option • Product variety	• Ability to search & compare prices between stores • Store rating function based on product/services

6.0 DISCUSSION AND CONCLUSION

In this paper, the problem concerning difficulty and lengthy time to search for product from multi stores and its solution have been thoroughly discussed. Discussion on problems of online shopping that contributed to the proposal of Shopmate has been elaborated. The brainstorming of the solution led to the feasibility analysis where the real requirements and market needs are elicited.

As for the feedback from the survey, they were positive and agreeable with the solution that Shopmate will offer to the community. There exists suitable target within the community for which Shopmate will be very useful. The technique used is very simple: by using XML, each of the online stores only needs to allow access to their pages and the rest of the work will be handled by the XML. In short, Shopmate grabs the item information and compare the prices based on the user's search. Hence, since using Shopmate is very straightforward, it is suitable for all age of users. It is not a complex system where the users need to be trained or guided through each step.

From our analyses, it can be determined that our idea is positively accepted by the end users. The industry of online shopping is constantly growing. Since this idea has yet to be realized by others based on the observation that no similar product has existed in Malaysia, when other competitors want to compete with us in the future, they will need to be more advanced or provide more value to their own product. That way, we have created a barrier for them to enter the market of helping users shop. People around us, including students, constantly buy items through online shops. The growing trend of online stores together with the necessity for the consumers to find items with the lowest price creates a potential in Shopmate to become a well-known service.

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