

Web-Based Shopping and Advertising Aid Application

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ARTICLE INFO	ABSTRACT
Published online 11 February 2022	An increasing number of consumers are engaging in online retailing interactions. Developing new models of the consumer will help businesses to enhance their understanding of their consumers and market segments, which in turn will lead to increased profitability. Online shopping is a process whereby consumers directly buy goods, services, etc. from a seller without an intermediary service over the Internet. Shoppers can visit web stores from the comfort of their house and shop by sitting in front of the computer. This research aims to develop a web-based shopping aid model that could help the consumers with their shopping decision by providing different types of search filtering and analyzing the collected data and generating clear summaries that will be displayed as tables and charts which helps customers to select the product that fits their needs.
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INTRODUCTION

In recent years, big companies have been interested in the notion of enhancing their customers' shopping experiences (Oláh et al., 2019). In addition, many manufacturers, such as Apple, Samsung, and Nike, have opened their flagship stores partially to convey to their customers a unique brand experience (Almeida et al., 2021). Both on the internet and in physical stores, retailers are eagerly providing shoppers with numerous shopping aids, defined as "shopping assistance delivered by retailers aiming at facilitating shopping experiences and increasing purchase conversion and sales" (Gallino and Moreno, 2014).

The changing retailing environment creates new realities for retailers. Today, success means connecting to consumers wherever they are and whatever device they use. As consumers are always connected to the internet through their phones, it also gives companies nonstop connectivity to their customers. To engage consumers, companies need to understand who they are. It means knowing important factors about consumers such as their demographics, location, website browsing and search and purchasing habits (Tewari and Misra, 2018). In brief, an increasing number of consumers are engaging in online retailing interactions. Even though electronic commerce is expanding rapidly (Turban et al., 2018), our understanding of e-consumer behavior is still limited (Nguyen et al., 2018). Online purchase behavior does not necessarily

follow traditional consumer purchase behavior (Díaz et al., 2017). Therefore, developing new models of the consumer will help businesses to enhance their understanding of their consumers and market segments, which in turn will lead to increased profitability (Karimi et al., 2015).

LITERATURE REVIEW

Web Marketing

Web Marketing is the use of electronic communications and digital information processing technology in business transactions to create, transform, and redefine relationships for value creation between or among organizations, and between organizations and individuals (Turban et al., 2018). Web technologies have become commonplace, with Web marketing becoming more and more important over time. In this regard, companies in different countries have started to leverage Web marketing operations (not limited to text messages) in the form of multimedia messages to communicate services/products details.

Web activities drive personalized information, with consumer responses expected to be higher for communications concerning brands and products (Persaud and Azhar, 2012). Web marketing takes your message to the big wide web. With tons of people using the internet every day, there are huge opportunities to get your product or service in front of people who need or want it. The web market is defined as the process of marketing

messages delivery from businesses to clients with the use of permission-based and interactive communication services via Web communication media (Huang and Symonds, 2009).

Web Advertising

Web advertising refers to the use of Web internet-based media in relaying advertising messages to potential and current consumers in the form of time and location-sensitive personalized information to boost the promotion of goods and services (Haghirian et al., 2008). Along a similar line of description, Scharl et al., (2005) referred to it as the information promoting goods and services in a way that it is sensitive to time and location, via a wireless medium, whereas Karjaluo et al., (2004) referred to it as the business of encouraging people to purchase products/services with the help of Web channel as the medium for advertisement test delivery.

Although differences are evident in the provided definitions in the literature, the concepts of location awareness, personalization, interactive communication and the ubiquity of Web technology stand out in the literature on Web advertising and this contributes to the specific medium (Kelly et al., 2004; Tewari and Misra, 2018). Despite the differences, clarity prevails as to the top effective way to use Web advertising in the marketing field. In Nishida's (2016) study, the author explained that Web advertising enables companies to make the personalization of ads to specific periods to entice consumers to visit and re-visit their websites, based on their browsing history preferences. This method has been raised by consumers as a privacy concern, particularly those that find Web advertisements as being an intrusion in their lives. In this regard, in contrast to traditional advertising media, characterized by one-way communication (from the marketer to the consumer), advertising applications enables the receiver to respond by calling the advertiser, text messaging him, or logging into the website of the business and thus, the latter promotes more interactive and personalization compared to the former type of advertising (Tewari and Misra, 2018; Oláh et al., 2019).

Consumer Decision-Making Process

As regards online shopping, when consumers see advertisements such as banner ads or online promotions that may attract their attention and stimulate their interesting particular products. However extra information is needed to decide to purchase. If they could not find this information they will try to search online via websites, or search engines (Karimi et al., 2015). Moreover, the consumers need to compare these products that they found with other products in terms of price and quality as well as the services provided. Also, they need to look at the product reviews and comments from other consumers. Then, they will be able to realize which brand or company has the best offers that fit their expectation. At this point,

good-organized web site the attractive design and structure are sensitive things to convince consumers to be interested in buying products and services (Haghirian et al., 2008). In addition, the information sources nature may influence buyer behavior (Almeida et al., 2021). The most useful characteristic of the Internet is that it supports the pre-purchase stage (Persaud and Azhar, 2012) as it makes customers be able to compare between the different choices (Scharl et al., 2005). During the purchasing stage, it is important to help the consumer to select the right product, the factors that seem to be helpful in this area are product assortment, sale services and information quality (Almeida et al., 2021). Post-purchase behavior will become more important after their online purchase.

Existing Systems

Recently, online shopping platforms are inconceivable popular selling channels amongst customers all over the world (Scharl et al., 2005). Online shopping platforms can help sellers gain exposure for their products and these marketplaces also get the benefit of an expanded variety of products without introducing any new inventory as these online stores act as a bridge between sellers and buyers (Huang and Symonds, 2009).

There are many online marketplaces today and as such, a comparison between a few of these few shopping platforms to the proposed system will be administered. The comparison will focus on the factors affecting that makes the data analysis more comprehensible for consumers and help them to make decisions. One of the most important factors that make difference in any online shopping platform is the search process which allows the customer to find the products they need by selecting a specific location or specifying the budget (Karjaluo et al., 2004). Moreover, using tables and charts is an effective way to help the consumer to select the product that fits his needs.

The proposed system aims at analyzing data for the user to find the cheapest product they want, and find the nearest product they want, also, choose the criteria of the search between a good price and nearest shop depending on their preference. Also, the proposed system will display a chart table that shows product prices in a different location. It will also send the product advertiser feedback on the time and location of how many people views their products. Therefore, the system is intended to help the customer's shopping experience.

Mudah Online Classified-ads Website

Mudah. my is a website that allows users to post an advertisement for a limited period without charge, for buying or selling products or services. The product range listed is very general, which includes vehicles, jobs and services, properties, and home and personal items. Since advertisements could be posted by sellers or users, we could say that the price is updated by both sellers and users. It allows users or sellers to upload photos of the products, but

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they could not leave comments/reviews on the advertisement. It also allows users to search for the best price in the selected state, which may filter some unwanted information, but the context was still too wide (Mudah.my, 2019).

1. Advantage

□ Mudah is easy to use. You need not be a geek to use it. It has an extremely simple user interface and a webpage that is less cluttered than most other sites. The Mudah

web pages only have the information and tabs you need to buy or sell, which makes it a great site for all.

□ Enables you to buy and sell a wide range of goods. Also lists jobs.

2. Disadvantage

□ Page design is plain and simple and does not have the appeal that other e-commerce sites have.



Figure 1. Online Classified-ads Website

MyMotor Online Car Bidding Platform

MyMotor by MYEG, an online solution portal for vehicle ownership introduces its online car bidding platform, MyAuction where private car owners can now buy and sell used cars in an online car auction, alongside car dealers.

The online car auction is open to members of the public so that both buyers and sellers including private car owners and car dealers can view the bids in progress. Buyers are assured of getting the best price in the market as they will be dealing directly with the seller without a third party involved. For sellers, there is an opportunity to secure a higher price should there be a strong demand among bidders. With online bidding, sellers will be able to reduce the waiting time required to sell their cars compared to the traditional method

(focus Malaysia, 2019).

1. Advantage

- The cars listed have been inspected by the professional team by MyMotor.
- Extension of auto warranty can be purchased at a discounted price.
- Can be used for selling and buying both new and used cars.
- Buyers who require financial assistance will have the option of taking up a loan through MyMotor.

2. Disadvantage

- Limited in filtering search for new cars.
- Available only in English

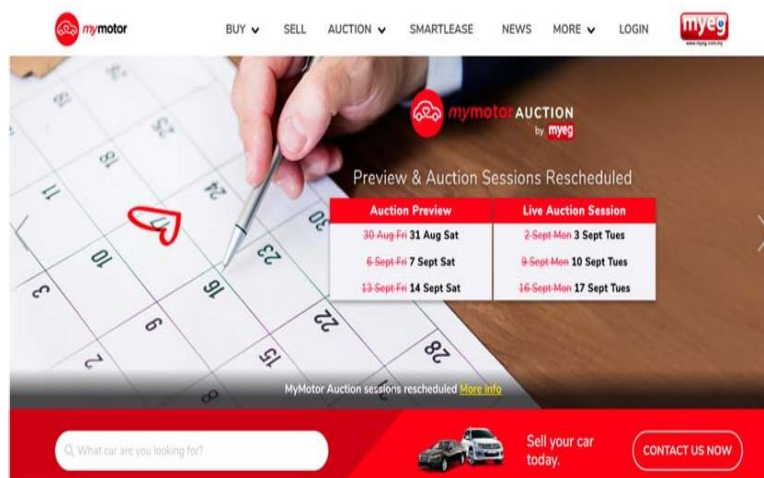


Figure 2. Carlist Online Portal

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Carlist.My is an online portal that enables car buyers and sellers to find prices, reviews and auto news. Carlist.My was founded in 2009. Carlist.My tends to always harbor a healthy collection of used cars in Malaysia. Their vast amount of advertised cars (always seeming to be in the 140,000s) makes for a good starting for those wishing to purchase a new set of wheels at a more affordable price. Searches of cars are simple, providing relevant information, such as the type of gear transmission, year of the car’s make, mileage, price, location, and an option to view the seller’s contact information. There is even a tool to help save your search if interested, along with a comparison tool to aid you in getting your best prices. All in all, Carlist is a great starting point for

those wishing to test their luck in finding a thrifty deal for a used car in Malaysia (Carlist, 2019).

1. Advantage

- Carlist.my currently serves more than 3 million unique visitors a month that browse through over 160,000 vehicles up for sale.
- Provides different categories of cars such as new cars, used cars and reconditioned cars.
- Available in English, Bahasa Malaysia, and Chinese.

2. Disadvantage

- Users can not leave comments or make a review on the post.

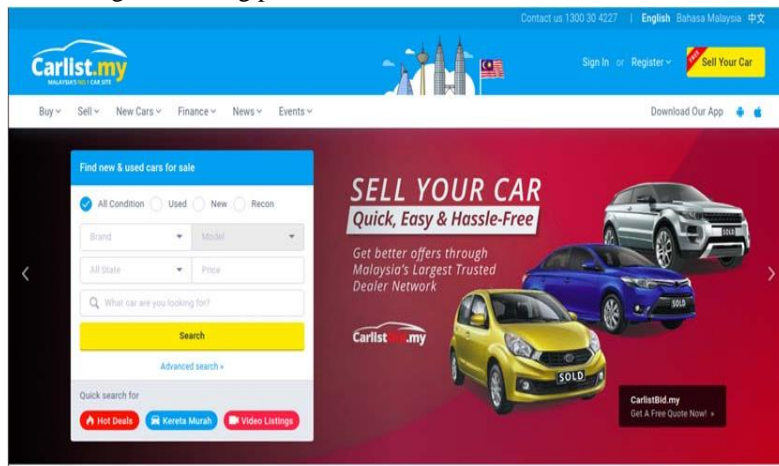


Figure 3. Online Portal

Comparison Table

The table below will show how some of the features of the selected online shopping platform stack up against each other in comparison to the proposed system.

Table 1. Table for existing systems

	Mudah	MyMotor	Carlist
Location of the product chart table	X	X	X
Require registration	□	□	□
Search for prices in selected area by postal-code	X	X	X
Allow users to post comments/reviews on products	X	X	X
Product price chart and table	X	X	X

Mudah is an online marketplace that allows people to buy and sell a wide range of products and services. In

addition, from the point of view of suppliers, the existence of a physical shop or a registered company is not required.

It has a simple and easy interface. Opportunity to the seller to advertise their products without any charge. People can list their items on Mudah by filling up the Insert Ad Form and providing some information about the sellers and the items. The user is asked to register on the website and make their account to be able to use it as a seller. Particularly, one of its features is that this online platform provides an opportunity for people to buy and sell in her region. In other words, people can always be looking for something, or buy and sell almost everything, which is nearby their location. However, the location search is limited which is not providing postal code for states that makes the location is limited of specification. Also, there is some features limitation that the website provides, one of these is that the customer cannot make a review for the product as well as cannot leave a comment that describes the user opinion about the item, this limitation is can be a disadvantage for this marketplace because reviews and comments help other customers to have more details about the product which helps them to make their decision. In addition, when the user searches for items by location, in result the items displayed for the user based on location, however that is enough for the user to make the right decision, they need clear and summarized information such as chart displays the items by location as well as the table shows this data. Also, the chart and table should be displayed when the user filters the search based on price value.

MyMotor.my offers inspected, used cars and new cars for sale as well as provides trade-ins and listing of used cars from owners and dealers. As a hassle-free online platform that brings both the buyer and sellers of vehicles together, MyMotor serves as a sales and purchasing assistant, easing the buying and selling transactions for customers. Unlike typical online classified advertising websites, MyMotor will assist the buyer and seller to complete the transaction from start to finish. The website requires the user to register to be able to use the application, the user needs to bring your IC, car registration card (or a copy), insurance documents, and ideally, the original purchase documents and any service history documentation to be a seller. This website does not provide searching filters such as search based on postal code which helps to specify the location. The user cannot leave reviews or comments on the products. The displayed data is not clear for customers after searching, there is no summarized information such as charts or tables.

Carlist.my is a Malaysian website that connects car buyers, sellers, and enthusiasts with one another. It provides car classifieds, the latest informative content, comprehensive automotive research, and more. The website offers new and used cars in a variety of brands. With over 100,000 listings available in its database, Carlist.my reaches an audience of more than 800,000 car buyers viewing over 13 million pages per month. The website is well designed with a simple interface. The user

needs to create an account to be a seller and list cars. It provides search filtering for the customer to search for cars, but the search is based on location limited and is not specific. The system does not allow the customers to make a review or write a comment on the car advertisement. Also, when the customer searches for the items whether based on price value or location, the website does not give clear and summarized data even by charts or tables.

CONCLUSION

The relevant studies and researches dedicated to Web advertising were presented. The study also highlighted gaps in the literature as to the effects of location-based, entertainment, information value, incentives and trust on Web advertising. It also compared the proposed system to other existing systems. These factors underpin the research questions What are the requirements of web application shopping aid model?, Which development framework can be adopted for an effective Web shopping aid?, How to develop the prototype of a web application shopping aid?

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