M-Commerce Hijabster Mediator with Risk Assessment

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ARTICLE HISTORY	ABSTRACT
	Globally, online business is advanced and popular. In Malaysia, online business is booming as there are a lot of people shops online. People do not have time to go physical shopping whereas with online shopping, they choose what they want, pay online and the items will be sent to their home. People are accustomed to their mobile devices rather than computers. Clothes are the top rank item that people buy online. Nowadays, hijab is well-known and has many designs; the buyers are spoilt for choice. There are difficulties in having mutual agreement among sellers and buyers due to are many hijab sellers. Therefore, 'Hijabster Mediator Mobile Application' is developed to become a tool for business matching and minimize risk between seller and buyers of hijab. The method that had been used in the development of this mobile application is Mobile Application Development Life Cycle (MADLC) starting identification phase, design, develop and prototype phase. Initial requirement had been done by interview with sellers and buyers of hijab. Case study of the existing related application had been conducted. Finally a prototype of Hijabster Mediator Mobile Application develop which helps sellers to meet their buyers and the buyers can choose their preferred seller and makes the transaction between them easier.

1. INTRODUCTION

People love to shop online as according to Google, total of internet users in Malaysia has reached 17.6 million (61 percent) of the country's populace. It is considered high for rising markets, compared to Philippines (29 percent) and Indonesia (18 percent) [1]. According to Malaysia's E-commerce statistic, in Malaysia's online shopping market size there was estimated to be RM5 billion in 2014 compared to in 2010 with RM1.8 billion that has shown the Malaysia's population that shopping online have increased [2]. Today, hijab was commercialized with various design and style. There are many sellers of hijab but it is difficult to identify the best because of the variations of choice. Buyers need to do research to find the best seller but the information that they get is overwhelming especially if they are from the internet. There are about 12,000,000 results (0.30 seconds) in Google search on 28

Oct 2014 just by typing hijab online and about 423,000 results (0.28 seconds) in Google search on 28 Oct 2014 by typing hijab online seller in Malaysia. The seller faces trouble in finding buyers since they have a lot of competition. The interview with sellers and buyers has been conducted. As the result, sellers and buyers face difficulties to suit each other and they are happy to have a platform for them to meet. Therefore, we propose a mobile application is proposed to solve the gap and problems between sellers and buyers of hijab that for business matching.

2. REVIEW OF LITERATURE

2.1 Online Shopping

Shopping online is a way of buying goods or services over the internet [3]. Shoppers may shop when they are free and utmost comfort or ease at their homes and shop as they sit in front of the computer. E-commerce is a process of buying items or services through internet but the process is completely using electronic events. M-commerce is a short word from mobile commerce and the transaction is conducted using cell phones or others handheld devices that operate with internet access. M-commerce can also refer to the increase of practice of conducting financial and promotional activities by using wireless handheld devices [4].

Top five categories online shoppers buy from local site is electronics with 61 percent followed by fashion and accessories with 50 percent, followed by food and beverage with 49 percent, followed by health and beauty with 44 percent and lastly are home with 43 percent. At the foreign site, the first place is fashion and accessories with 27 percent followed by books and magazines, hobby and arts, toys and games and lastly electronic [5]. Therefore, fashion and accessories is a top categories that is shoppers aim to buy online. Hijab is the one example of the fashion and accessories categories.

2.2 M-Commerce Become More Preferred

Chang-tseh Hsieh [6] stated that the number of personal computer user base available is smaller than mobile terminals as mobile terminal is growing faster. User's understanding with the mobile terminals is higher. The mobile is convenient as it is accessible anytime and anywhere. M-commerce may assist in time-consuming tasks. Therefore, people who love to shop online will prefer use mobile rather than their personal computer [6].

2.3 Risk Assessment in M-Commerce

Issues that involves risk in M-Commerce implementation is privacy, security, location information and the liabilities for transactions, relationship between service providers and customers, intellectual property issues, taxation and education [7]. This research focuses on the relationship between service providers (referred as seller) and customers (referred as buyer).

2.4 Fashion of Hijab

Hijab is a head covering that is worn by Muslim women in public [8]. The word hijab is comes from Arabic word that is to illustrate the headscarves itself. In Malaysia, hijab is called "tudung" whereas in Indonesia, it is calling a "jilbab". Although the name is different, they are the same thing. The niqab or "purdah" is the full-version of hijab. It consists of covering face completely, leaving just a slit for the eyes [8].

Today, hijab is commercialized with many various styles and designs. Fashion evolution grows as women's fashion kept changing rapidly [8]. The revolution and the changes in style and design in all civilization will be evidence of fashion evolution. This shows that women in Malaysia are flexible, adaptive and fashionable as their style is tolerating with Islamic guidelines. Therefore, the evolution of hijab will be continuously along with the Islamic fashion as it represents the social and culture of Malay women in Malaysia [9].

2.5 *Difficulties to Find Seller*

The sellers need to seek or search to find the preferred seller and it will take time. If they found the seller, it may be not the best seller. Thus, some of the reasons that contributes in difficulties to find and trust seller because of traditions, culture, practices and business value [10]. Therefore, the seller some initiatives include pricing policy, product quality, sales training and promotion products, technical assistance, order processing and delivery and return of goods policy in order to overcome this issue. It makes the relationship between sellers and buyers to be strong, trust and quality with these initiatives [11]. The sellers and buyers need to trust each other. It is important to build and maintain the business relationship. Therefore, they should have positive expectation, strength, credibility and sincerity in each other [12]. It is important to have trust in sellers or buyers also important in order to maintain the trust in buyer-seller relationship for business. According to survey sample of 110 sellers, if there are contract violations between sellers and buyers can affect the sellers trust in the sellers and buyers and ruin the relationship between them. Therefore, the seller face difficulties to find the trusted seller or buyer as they can have trauma due to this issue [13].

2.6 Intermediaries

The intermediaries are defined as individuals or an organization that helps customers and sellers to meet and do the transaction [14]. Spulber [14] mentioned that the intermediaries deliver, store, repackage and assemble. The definition of intermediaries is an individual or organizations that position themselves on the value chain and search for potential sellers and buyers [15]. The intermediation is defined as the firm that act as the agent of an individual or organization (seller or buyer) and the other agents in the marketplace that will lead to possible transaction that create economic or social value [16].

The roles of intermediaries are to provide infrastructure, to collect, organize and evaluate isolated information, to ease social communication and information exchange, to aggregate supply and demand, to assist market processes, to provide trust and to know the needs of customers and sellers [16]. According to case studies, the roles for intermediaries are aggregating, matching sellers and customers, providing trust, and providing inter-organizational market information [17]. The role of intermediaries is very important for customers and sellers and they can get revenue from match customers and sellers. The

intermediary give information services and the seller or customer will pay for that information [18].

2.7 Usability of Mobile Application

Smartphone is a necessity in today's living. The limited size of the screen of smartphone will affect the usability of the smartphone. Users of the application are decreasing because of screen size, poor connectivity and limited input modalities. Therefore, the design of interface of mobile application is important in order to increase the usability of the mobile application [19].

The design of the mobile application is important. Today, we changed the way we work and interact according to the changes of mobile business applications. Based on test sample of 653 participants using modeling and multi-group analysis, the elements that they discovered will influenced the usability of the mobile application. The element is convenience, perceived quality, enjoyment, perceived ease of use and perceived usefulness. The different of age group is analyzed, for the younger users; the result is convenience is more important than ease of the use and vice versa for the older individuals [20].

3. METHODOLOGY

Mobile Application Development Lifecycle (MADLC) methodology is the most suitable to develop this mobile application. MADLC have seven phases [21], however, for this project, there will be use identification, design and development phase only because the development of this application as prototype, therefore deployment and maintenance phase is not necessary due to time constraint and the prototyping and the testing phase will be done in the development phase. MADLC is chosen as it is the most suitable methodology to be used to develop this mobile application because this lifecycle propose some of the characteristics of mobile applications such as life span, complex functionalities, fewer physical interfaces and others [21]. Table 1 refers to the MADLC activities for this research.

Table 1: Mobile Application Development Lifecycle (MADLC) for Hijabster Mediator

Phase	Activities	Deliverables
Identification	- Identify the problem statements, objectives, scope and significance. - Functional requirement for case study analysis with some of the related article, websites, journal and existing mobile application. - Gets the requirement of the user (seller and buyers) using interview and identify the functionality of business matching system. - Plan the project schedule	The problem statement, significant, research question, objective and scope of the android development have been identified List of users' requirement. Gantt Chart.
Design	- Design the user interface creating a storyboard. - Construct Work System Diagram, Use case diagram, Context diagram, Data flow diagram (DFD), Entity Relationship	Storyboard Work System Diagram, Use case diagram, context diagram, DFD, ERD

	Diagram (ERD)	
	• Design a mobile application for business matching sellers and buyers	
Develop	• Code the application using Aptana Studio 3. Programming language such as javaScript, HTML5 and CSS were been used to develop the mobile application interface.	Prototyping of *Hijabster Mediator* mobile application
	• Construct database by using PHPMyAdmin. PHP was been applied for process and function.	Development application
	• PhoneGap was been applied to run code in the Android operating system.	
Prototype	Prototype of the application been produced.	Conduct test prototype

4. RESULTS AND DISCUSSION

4.1 Work System Diagram

The work system diagram is created to show the factors and relationship that important in order to develop the application (refer Figure 1). The change in factors can impact the application. Seller and buyer will be the customers or user of this application. The product and services is Hijabster Mediator Mobile Application. The business process are value chain, data flow diagram, use case and entity relationship diagram. The participants in this system are seller and buyer. The information was collected from existing related mobile application, interview and case study.
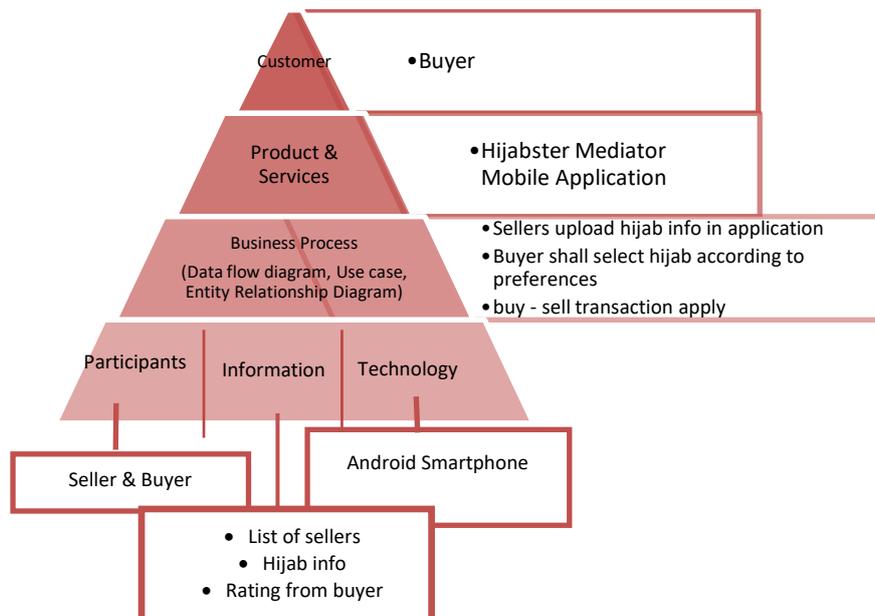

Figure 1: Work System Diagram for Hijabster Mediator Mobile Application

The technologies used are computer, android smartphone, software android studio, parse online database, Java language and XML languange. These technologies were required as basic tools for developing mobile application. The context of this application is e-commerce. The infrastructure needed are android smartphone, register as playstore user and internet. The users need to have this infrastructure in order to use Hijabster Mediator Mobile Application.

4.2 *Functional and Non Functional Requirements*

This section discussed functional requirements had been analysed that describe the facility or feature of the application. Functional requirement are login, manage seller information, manage hijab information, view seller information, manage buyer information, rate the seller preferences, order form and search for hijab. The non-functional requirements are security which saves the data by using id and password and the availability of this application is 24 hours per day.

4.3 *Entity Relationship Diagram*

The entity relationship for Hijabster Mediator Mobile Application is shown in Figure 2, the buyer will order their hijab preferences by order form. The order detail of the hijab will be alerted to the seller by email. The buyers have category of buyer which is wholesale, retailer and consumer. This category of buyer is classified according to the quantity of the hijab that the buyers buy. For the wholesale the minimum order will be 50 of hijab and for retailer the minimum order is 10 of hijab and for the consumer the minimum is 1 hijab. After the seller sent the hijab to customer, the tracking number of the shipment will be updated and sent to buyers email. The database design will be refer to this entity relationship diagram.
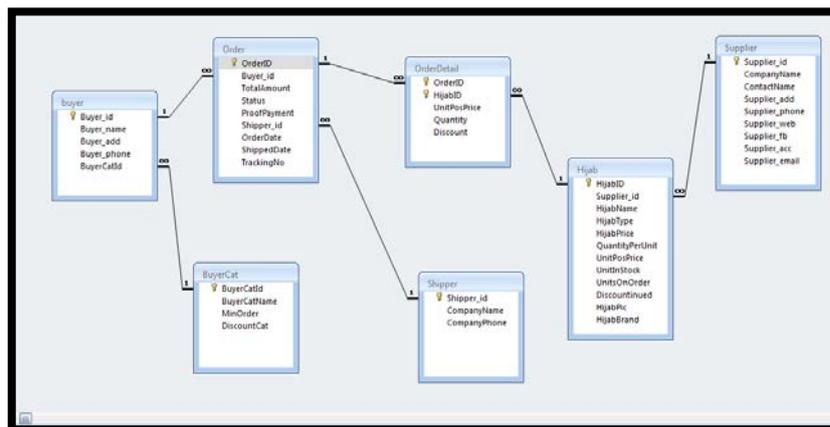

Figure 2: Entity Relationship Diagram for Hijabster Mediator Mobile Application

4.4 *Hijabster Mediator Mobile Application*

The interface design concept for Hijabster Mediator Mobile Application can be seen in figure below according to its main functionality. The user can login and see the different part of the application. For the seller, they can manage their profile and hijab information. While the

buyers can manage their profile, view the seller profile, rate the preferences seller, search for preferences hijab and can order the hijab. The seller can update the information or description of hijab and will be seen in the hijab part.

The buyer can scroll and look for the collection of hijab or they also can search for the keyword of hijab preferences. Next, the buyer can rate by click the star rating bar and will be update. Therefore the ranking for the seller can be seen. If they got many like and star, that means the seller can be trusted and the service and the product is the best. The buyer also can see the seller facebook, website and can contact them by phone or message. The buyer can go to the shop directly if they want by looking at the address and location map. The buyer also can share this seller page and promote to their friends.

Lastly, the buyer can click button to see the collection of hijab that is sell by the seller. Some important features provided in this mobile application such as rating features for preferences seller, hijab seller contact information, and shop mobile ease buyer make selection and solve the gap and problems between seller and buyers of hijab.
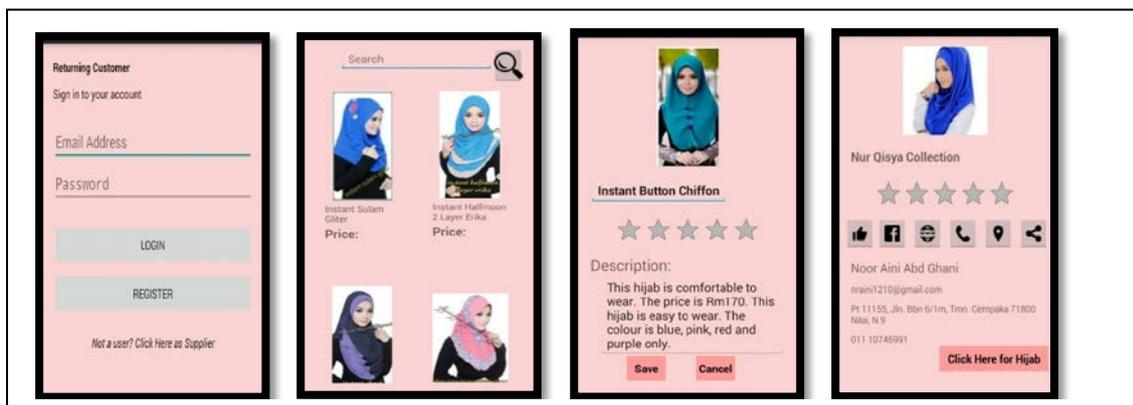

Figure 3: Hijabster Mediator Mobile Application Interface Design

5. CONCLUSION

The Hijabster Mediator mobile application is developed in order to help the business process between hijab sellers and the buyers, to assess risk and match according to their preferences. Through this Hijabster Mediator mobile application, the sellers and the buyers will suit each other with risk assessed. This application can be accessed for 24 hours per day by using android smartphone. Finally, it is hope that this study will benefits not only hijab buyer and supplier, but also to any retail business that would like to have a mediator for distributing their products or services. Subsequently, mediator mobile application shall become another prominent industry in future.

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