ABSTRACT

Online shopping is growing more rapidly and globally. With the development of Internet, the competition between online retailers has progressed into competition between logistics service providers (LSPs). From the fundamental perspective, the online shopping could not be successfully completed without LSPs. In fact, the performance of LSPs can be considered as one of the determinants that influence consumers’ online shopping behaviour. This paper presents the relationship between consumers’ online shopping behaviour and logistics competencies of LSPs in order to covering the shortcomings of previous studies that did not examine specific factors, especially logistics factors that influence online shopping behaviour. In this study, there are three dimensions of logistics competencies which in term of order accuracy, order condition and reverse logistics have been adopted. A sample of 400 respondents has been used and quantitative research is conducted by means of a structured questionnaire. As a result, the findings indicated that order accuracy is the most important variable in influencing online shopping behaviour. Likewise, other logistics variables such as order condition and reverse logistics are considered relevant to online shopping behaviour.

Keywords: online shopping, logistics service providers, online shopping behaviour, logistics competencies

INTRODUCTION

Online shopping is the process a customer takes to purchase a service or product over the Internet (Goh & Zuroni, 2012). In other words, a consumer may at his or her leisure visit web stores from the comfort of their own homes and shop from an online store. Lee & Zhang (2002) have examined that online shopping has become the third most popular Internet activity, immediately following e-mail using, instant messaging and web browsing. Accordingly, it is very important for the practitioners to understand online shopping behaviour (OSB) in this competitive and rapidly growing virtual marketplace. The OSB also known as online buying behaviour and internet shopping behaviour, in which these terms refer to the consumption process of buying products or services over the internet (Liang & Lai, 2000).

When studying OSB, there are one undoubted fact that everyone should bear in mind that logistics services is one of the fundamental goals for online shoppers. Usually
online shoppers make their purchasing orders at their home or office assuming quicker delivery than offline purchasing and on time delivery at his or her convenience (Soopramanien & Robertson, 2007). In contrary, the late delivery of products is one factors that make online shoppers dislike online shopping. As such matter, an effective logistics competency makes online shoppers satisfied and it makes them to continue shop online. Thus, the logistics service providers (LSPs) play an important role in performing logistics excellence in courier industry.

**PROBLEM STATEMENT**

According to Tom Tom Traffic Index in 2016, the traffic congestion increase to 13 percent globally since 2008. For the big cities like Mexico City, Bangkok, Istanbul, Rio de Janeiro and Moscow are the most congested cities in 2015. The onset of traffic jamming lead the people feel extreme stress as they have to waste more precious time and money to carry out their daily activities such as working and shopping during peak hours. Sometimes, those who stay at big cities also face such higher parking fees when going out to have a meal, entertainment and even buying daily items. It is time-consuming, waste of money and fuel when being trapped in the traffic congestion. At the same time, the people do not like to move to somewhere, they just want to get the things on fingertips. In dealing with this matter, the people choose to do online shopping to avoid themselves from the congested traffic when going out from home. More importantly, online shopping is available and accessible to whomever by providing various selections of goods, price comparison, after sales service and fast delivery services.

However, a minority of online shoppers not prefer to shop online due to some circumstances of online shopping such as the product inaccuracy, poor product condition, delayed delivery as well as the invalid product return or money back guarantee policy (Harlina, 2006). So, products delivery performance is critical in affecting online shoppers’ behaviour towards online shopping. Needless to say, there is a need for LSPs to provide the best logistics practices in fulfilling online shoppers’ requirement towards courier industry. In brief, it is vital to determine the importance of logistics competencies towards OSB among online shoppers.

**LITERATURE REVIEW**

**Online Shopping Behaviour (OSB)**

Shahzad (2015) defines the OSB as a kind of individual’s overall evaluation and perception for product or service during online shopping which can result in bad or good way. Besides, Yang, Li, Liang & Li (2011) identified the OSB is a consumers’ emotional and actual behaviour based on the evaluation of purchase decisions on the internet. In addition, the OSB is defined by Lee & Zhang (2002) as “consumers’ psychological state in terms of making purchases on the internet.” Therefore, understanding OSB becomes the key element of E-retailers which focus on seeking to promote business relationships and increase long term profitability. Through identifying the factors that influence OSB, the online retailers able to monitor and improve company’s performance and encourage more customers to shop online (Cao
& Mokhtarian, 2005). Previous studies on consumers’ OSB have identified a number of factors that consumers consider important in their adoption of online shopping.

According to Chang & Samuel (2004), they identified that demographic characteristics of online shoppers have a significant influence on online purchase frequency. Demographic characteristics factors can be categorized as gender, age, education level, occupation, income, race, religion, nationality, family size and family life cycle (Kotler, 1982). Besides, Robinson, Riley, Rettie and Wilsonz (2007) also stated that convenience is the major motivation for online buying due to consumer can shop anytime and having bundles of items delivered at door step. Similarly, a study conducted by Yasmin and Nik (2010) also shows that website features has a significant influence on online shopping activities. The good quality of website design can guide the customers for successful transactions and attract the customers to revisit the website again.

Besides, Yang, Li, Liang, and Li (2011) indicated that logistics services factor does has a significant effect on consumers’ behaviour towards online shopping. They strongly support that online shopping cannot be completed without efficient and effective logistics service. The delivery service is the main element that online retailers need to achieve the delivery of goods bought by consumers. Moreover, online shoppers also concern with logistics information such as location of goods, quality of goods and order status. In addition, a communication between logistics service provider and online shoppers also directly influence consumers’ online shopping behaviour. The standardized operation and procedures of LSPs may reflect to the professionalism and reputation of online retailers. It is another dimension of logistics service has effects on the customers’ psychology. Therefore, efficient and effective logistics service will contribute to consumers’ satisfaction of online shopping (Li, Shu, & Xiong, 2011).

Logistics competencies
According to Morash, Droge and Vickery (1996), logistics competence is a vital strategic asset for manufacturing firms to compete in the current global environment. Logistics competence, such as customer responsiveness and competing on time, can be valuable resources for corporate strategy. Basically, logistics competence can be divided into two types which are logistics factor competence and logistics operation competence. For this study, the specific logistics competencies are more belonging to logistics factor competence. Logistics factor competence refers to the capability coming into being during the process of logistics activities because of the enterprise owning and controlling the resources, including all types of logistics mechanical equipment, logistics facilities, labour forces, capitals, information and others (Wei & Yihua, 2010). Same goes to the LSPs, they possess logistics factor competences for instance transportation vehicles, warehouses, handling equipment, drivers, deliveryman, capitals, order and delivery information in order to managing various retailers’ online shopping activities. In this study, there are three specific logistics competencies aspects which including order accuracy, order condition and reverse logistics.

Order accuracy
According to Bienstock, Mentzer and Bird (1997), order accuracy refer to how closely products match customers’ orders upon arrival. It involves the right products in the order, the correct quantity of products and no substitutions for products ordered. Hence, the items received rarely contain the wrong items and rarely contain substituted items.
Besides that, Rahmat and Faisol (2015) describe order accuracy is the goods received from LSPs or online retailers to consumer usually accurate. The goods should accurate since it is picked up from the point of origin until delivery to the final destination with the same condition, same quantity and arrangement based on the request of sender. Therefore, manufacturers always conduct internal inspection towards orders to prevent mistake arise and delivering the right products to consumer (Rahmat & Faisol, 2015).

According to the Rapee, Peng and Lee (2014), order accuracy is essential and influence to consumers’ behaviour toward online shopping. They strongly endorsed the order accuracy can be used to identify the level of logistics competencies to achieve customers’ satisfaction in the online market situation. Indeed, wrong item delivery also can make customers dissatisfied and further prompt a switch to the other competitors in the online industry. Thus, it is found that order accuracy has positive influence on consumers’ behaviour toward online shopping. In addition, a study conducted by Lee (2014) in Taiwan found that order accuracy has a significant influence on consumers’ OSB. The author shows that the Taiwanese are always less satisfied with the products they purchase online due to they did not receive the right product from the LSPs. Thus, order accuracy has been shown to influence whether or not a consumer will continue to shop online.

**Order condition**

According to Mentzer et al. (2001, 1999 & 1989), Bienstock et al. (1997) and Rinehart et al. (1989), order condition addresses the damage levels of the products due to handling throughout the transportation or delivery process. The damaged products are unusable to the customers. And the customers have to go through certain procedures to obtain the replacement of the damaged products from the suppliers or LSPs depending on the source and level of damage. Thus, it specifically defined in term of logistics context as the lack of damage of the orders due to the quality of handling. In other words, a damaged product will lose its intrinsic value since customers will not able to use it and it may need to undergo some correction procedures which included reverse logistics (Mentzer et al., 1999).

Besides, order condition also refers to some rude actions for example barbarized loading and unloading that did not exist and the order must be scientifically sorted as well as the damage rarely occur (Feng, Zheng, & Tan, 2007). According to Yuan (2006), the customer survey report proved that a high consumer satisfaction on online shopping is based on good order condition, order accuracy and order completeness. LSPs and online retailers should use safe packaging materials, strengthen packaging requirement and improve the packaging and picking quality standard, adopt specialized packing for fragile items, and provide some training to drivers regarding the methods to loading and unloading the products in correct and appropriate way so that the goods can be delivered in good condition, and correspondingly mitigate the probability to carry out reverse logistics of the products because of the delivery problem (Bienstock et al. (1997). And for the operational area, particularly in logistics operation, the desired objective will never achieved if the products do not arrived in the right condition that it should be (Rahmat & Faisol, 2015).

Apart from that, order condition appears to be an important dimension in the study because of the responsibility of the LSPs to the condition of the product along the transportation process (Harlina, 2006). This is because LSPs should make sure the right
order condition of products to be delivered to the hand of customers without any damage or error-zero defects. As a result, customers’ OSB has a significant relationship with the order condition dimension in which it is under one of the logistics competencies.

Reverse logistics

Reverse logistic also called aftermarket logistic, reverse supply chain or aftermarket supply chain (Fen, 2010). According to Hawks (2006), reverse logistic refer to the process of planning, implementing, and controlling the efficient, cost effective flow of raw materials, in-process inventory, finished goods and related information from the consumption point back to the point of origin for the purpose of recapturing value or proper disposal. More precisely, reverse logistics is the process of transferring goods from their typical final destination for the purpose of proper disposal or capturing value. Remanufacturing and refurbishing activities also can be included as a part of reverse logistics (Hawks, 2006). It shows that reverse logistic is actually a wide area of study.

However, in online shopping or e-retailing, reverse logistic is about the return policy which enables the customer to return the good which is not in the good condition according to the rule and procedure that listed in the policy (Watson, 2015). Return policy are the rules establish to manage the process by which customers return or exchange unwanted or defective merchandise that they have purchased previously (USLegal, 2016). Return policy will become significant when the delivered goods were defected, damaged, wrong shipped or dissatisfied the customer due to other reasons (Mironov, 2011).

According to Robinson (2014), an effective reverse logistic in e-retailing may result some benefit especially improved customer satisfaction. During online shopping, the consumer takes the return policy into consider before they buying something from internet. In the return policy, the consumer usually will consider some issues before making some buying decision such as how long it takes to perform a return, when they will able to receive a credit or replacement for the items, where the items can be returned, who will be going to bear the transport fee for the returning process, is there any costs for return process, and how to make the contact to arrange or authorize the return (Watson, 2015). Finally, the Managing Director of Commonwealth Supply Chain Advisors, Ian Hobkirk (2015) claimed that reverse logistics is going to shape up to be a major differentiator for e-retailers (Hobkirk, 2015). It means that reverse logistics may become a key of success for any of the e-retailer to compete with other form of retailing business.
RESEARCH METHODOLOGY

![Logistic Competencies]

**Figure 1**
Research framework of students’ online shopping behaviour

**Research hypotheses**
H1: There is a significant relationship between order accuracy and students’ behaviour towards online shopping.
H2: There is a significant relationship between order condition and students’ behaviour towards online shopping.
H3: There is a significant relationship between reverse logistics and students’ behaviour towards online shopping.

**Research design**
The research is a descriptive research and a correlation study is chosen to investigate the relationship between independent variables (order accuracy, order condition and reverse logistics) and dependent variable (students’ online shopping behaviour). Quantitative approach is used to collect numerical data. A non-contrived setting is used in the research where minimal researchers interferences. Besides, the unit of analysis for this research is considered as individual group. In this research, a cross-sectional study is carried out over a short period or at single point in time.

**Data collection**
In this research, primary data were used by the researchers and were collected through personally administered questionnaire. A sample of 400 students within the population in UUM who stay in Students Residential Halls in Route A which are MAS, TNB, PROTON and TRADEWINDS are collected to represent the whole population for UUM. Sample in this research are the students who have the experience of online shopping. It is because 400 sample size representatives of the students in this research definitely achieve more than 377 respondents that suggested by the guidelines of sampling table by Krejcie and Morgan (1970).

**Sampling method**
The type of sampling method that applied in this research is probability sampling. It refers to the elements in the population have some known, nonzero chance or probability of being selected as sample subjects. The samples (respondents) for this research are selected through multiple-stages of probability sampling method. First stage of sampling method that used in this research is cluster sampling. The target population of UUM students are first clustered into 4 cluster which are Route A, Route B, Route C and Route D. Route A is selected using simple random sampling method. Then, stratified sampling method is applied in the second stage of sampling process. There are 4 strata in route A includes Student Residential Halls (SRH)
Malaysia Airlines (MAS), SRH Tenaga National Berhad (TNB), SRH Tradewinds and SRH Proton. By the way, 100 respondents are selected from each strata via using simple random sampling.

**Data analysis**
The reliability test is assessed in order to measure the internal consistency. The higher the Cronbach’s alpha score, the higher the internal consistency reliability. Pearson correlation is used to measure the strength and direction of linear relationship between independent variables and dependent variable involved in the research. The coefficient of correlation shows the extent to which changes in the value of one variable are correlated to changes in the value of the other. In this research, multiple regression analysis will be used to determine the relationship of dependent variable with the three independent variables that involved.

**RESULTS**
The results of the present study are analysed. Before that, the Chi-Square test is primarily carried out to examine whether there are difference between demographics variables. Based on the result, there is almost no difference between demographics variables in the study. Hence, it is possible for the study to extend correlation and regression analysis.

**Table 1**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Item</th>
<th>Alpha Cronbach Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online Shopping Behaviour</td>
<td>12</td>
<td>0.910</td>
</tr>
<tr>
<td>Order Accuracy</td>
<td>5</td>
<td>0.870</td>
</tr>
<tr>
<td>Order Condition</td>
<td>5</td>
<td>0.881</td>
</tr>
<tr>
<td>Reverse Logistics</td>
<td>5</td>
<td>0.821</td>
</tr>
</tbody>
</table>

Table 1 indicates the Cronbach’s alpha value for all the four studies variables. For online shopping behaviour, there are 12 items and Cronbach’s alpha is 0.910 while there are 5 items for order accuracy with Cronbach’s alpha of 0.870. Moreover, there are 5 items for order condition with Cronbach’s alpha of 0.881 and there are 5 items for reverse logistics with Cronbach’s alpha of 0.821. Therefore, it can be conclude that all the variables are very reliable as the value is closer to 1.

**Table 2**

<table>
<thead>
<tr>
<th>Factors</th>
<th>OSB</th>
<th>OA</th>
<th>OC</th>
<th>RL</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSB</td>
<td>1.000</td>
<td>0.550</td>
<td>0.540</td>
<td>0.528</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Correlation is significant at the 0.01 level (2-tailed).

Based on Table 2, the p-value for all the four variables is equal to 0.000 at which it is less than α value of 0.01. Thus, it indicates a statistically significant correlation between independent variables (order accuracy, order condition and reverse logistics) and
dependent variable (online shopping behaviour). There is a positive relationship between all the independent variables to students’ online shopping behaviour.

Table 3
Results of regression analysis (model summary and ANOVA)

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.641b</td>
<td>0.411</td>
<td>0.407</td>
<td>0.797</td>
</tr>
</tbody>
</table>

ANOVAa

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F(Sig.c)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>175.780</td>
<td>3</td>
<td>58.593</td>
<td>92.130(0.00b)</td>
</tr>
<tr>
<td>Residual</td>
<td>251.850</td>
<td>396</td>
<td>0.636</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>427.631</td>
<td>399</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: OSB, b. Predictors: (Constant), OA, OC, RL, c. Significance = 0.01

From the above analysis, the R² value is 0.411 which means order accuracy, order condition and reverse logistics explain 41.1% of online shopping behaviour. Besides that, the table shows that the set of predictors of online shopping behaviour is statistically significant at the 0.01 level (F(3,396) = 92.130, p<0.01) and therefore, it confirms the fitness of the model.

Table 4
Significant predictors of structural model (N=400)

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>Model</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>1.547</td>
<td>0.234</td>
</tr>
<tr>
<td>Order Accuracy</td>
<td>0.253</td>
<td>0.050</td>
</tr>
<tr>
<td>Order Condition</td>
<td>0.215</td>
<td>0.054</td>
</tr>
<tr>
<td>Reverse Logistics</td>
<td>0.262</td>
<td>0.044</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Online Shopping Behaviour, b. Significance = 0.01

Based on the findings, the regression analysis indicates that reverse logistics (β=0.262, p<0.01) is the main predictor of online shopping behaviour, followed by order accuracy (β=0.253, p<0.01) and lastly order condition (β=0.215, p<0.01). Thus, it can conclude that the independent variables which include order accuracy, order condition and reverse logistics have a positive relationship towards the dependent variable which are student’ online shopping behaviour. In summary, the relationship between dependent variable (OSB) and independent variables (OA, OC &RL) are as follows:

\[ Y = 1.547 + 0.253 \text{ Order Accuracy} + 0.215 \text{ Order Condition} + 0.262 \text{ Reverse Logistics} \]
DISCUSSION

The research framework theorized that order accuracy, order condition and reverse logistics will influence students’ behaviour towards online shopping. All logistics competencies components were significant predictors as expected. Importantly, the present study revealed that order accuracy is the strongest predictor on students’ behaviour towards online shopping in UUM. Order accuracy exerted the strongest impact on students’ behaviour towards online shopping \( (r = 0.550, p<0.01) \), followed by order condition \( (r = 0.540, p<0.01) \) and reverse logistics \( (r = 0.528, p<0.01) \). It is consistent with the literature on order accuracy is the strongest predictor towards students’ behaviour in online shopping. From the findings of the study, order accuracy has significant and positive effect on students’ behaviour. This is because those with high positive order accuracy appeared to have greater intentions to do online shopping which is supported by previous studies (Lee, 2014). It refers to the consumers will firstly take the perceptions of whether the products they received are accurate into account before they decide to purchase online. The results make sense as order accuracy tends to satisfy the online shoppers and lead them to continue shop online. Therefore, the researchers can conclude that students will opt to do online shopping when the order accuracy that offered by LSPs is favourable.

Moreover, from the finding of the result, there are a significant and positive relationship between order condition and OSB. A supported study by Harlina (2006) identified that order condition appears to be crucial in making decision to do online shopping due to it is the main responsibility of LSPs to ensure the good condition of the products along the delivery process. It, at the same time, meant that those with high positive order condition tends to have greater intentions to shop online which is supported by previous statistics of post-purchase evaluation by Taobao. It clearly shown that 70% complaints are correlated with logistics service, such as damaged package and poor condition of parcel which seriously affects the intention of consumers to continue to shop online. Thus, the researchers can conclude that online shopping behaviour has a significant relationship with the order condition, in which it is under one of the logistics competencies.

Finally, the results of this study show that reverse logistics has significant and positive effect on students’ OSB. This finding is consistent with the literature of Robinson (2014) which stated that the online shoppers will consider the return policy before they buy something from Internet. It meant that one tends to have stronger intentions to purchase online if the retailers offer effective return policy such as money back guarantee, free product return or free return shipping. In fact, the consumers will take some reverse logistics issue into consider before decide to purchase online. The issues are how long it takes to perform a return, when they will able to receive a credit or replacement for the items, where the items can be returned, who will be go to bear the transport fees for the returning process, is there any costs for return process and how to make the contact to arrange or authorize the return. Thus, it is make sense not to buy online if the return process is not clear enough to safeguard the rights of the customers towards the purchased products. In brief, the students will shift to shop online when the reverse logistics provided by LSPs is effective, simple and convenient.
CONCLUSION

As the conclusion, this study investigates the relationship between the independent variables and dependent variable successfully. The study is proved that order accuracy, order condition as well as reverse logistics have significant influence on the students’ online shopping behaviour. From another point of view, this research verified the LSPs as an indispensable role in the online shopping business. It means that the online shopping business will not able to sustain without the support from LSPs. Lastly, it can be sum up that logistics competency is an important requirement for online shoppers to buy online.

REFERENCES


Watson, N. (2015, March 17). *This is why reverse logistics is so crucial for your online shop*. Retrieved from Ventureburn: http://ventureburn.com/2015/03/reverse-logistics-crucial-online-shop/.


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