Abstract

This paper aims to propose a conceptual framework along with a set of research proposition that described the role play by service quality on innovation adopter satisfaction. This study offers an extensive literature review to discover the role play by service quality and on innovation adopter. The new perspective on service quality and customer satisfaction will discuss from the view of innovation adopter. The research model and research proposition are underpinned using diffusion innovation and theory and service quality framework. This study elaborates relation between service quality and halal warehouse adopter satisfaction. The findings of this paper can help port management to improve their service quality from the perspective of their innovation adopter. This paper suggests that service quality can be a predictor for innovation adopter satisfaction and the adoption continuity decision process. This paper also can give an input to the local authority such as Jabatan Kemajuan Islam Malaysia (JAKIM) and Halal Development Corporation regarding the level of service quality on halal logistic practice.

Keywords: Port Service Quality; Customer Satisfaction; Innovation Adoption

1.0 Introduction

Malaysia, as a maritime nation, has an economy, closely related to the development of maritime industry. There is a huge volume of international trade between Malaysia and other
countries that have been done using the sea. In 2015 Malaysian Port has been handled 7,412,414 total equivalent unit (TEU) for container cargo and 437,343,000 tonne metric for bulk cargo compare to 766,492 tonne metric only for the airport (Ministry of Transportation Malaysia, 2015).

According to G. T. Yeo, Thai & Roh (2015) seaports have an important role in the multimodal transport system and international supply chains. It is support by the port activities such as transfer cargo to and from waterways (Talley, 2009). The seaport also provides a terminal and an area for vessel doing transshipment activities also loaded and unloaded cargo activity such as halal goods.

Seaports in Malaysia have been an important door to international trade such as halal export activity. The value of Malaysia halal goods export in 2015 is RM 31.1 billion. (Osman 2016, February 9). China came to be the biggest export destination for a halal product with 4.1 RM 4.8 billion in 2015 (Corporation, 2016; Mutalib et al., 2016).

With the huge halal goods export value, there is a need for halal logistic terminal operation that sharia compliance in the seaport. The halal logistic practice will ensure the integrity of halal product on supply chain activity (Ngah et al., 2014) and this assurance will increase the demand on halal logistic service (Hamid, Talib, & Mohamad, 2014)

Innovation in logistic practice such as halal logistic terminal will help to support halal industrial growth and sustainability. The halal logistic terminal such as Halal warehouse is considered as innovation in logistic service (Karia et al., 2015). Innovation is related to the new idea or practice that treated as a novel by innovator and adopter (Chen & Lu, 2016; Rogers 1995). It can replicable, affordable and fulfill the needs of adopters (Jaafar, Endut, Faisol, & Omar, 2012) and is also improved as the quality of product or service in the competitive market (Alam, Bhuiyan, Jani, & Wel, 2016) Innovation process such as adoption will be considered successful only after adopter willing to implement the innovation (Frambach & Schillewaert, 2002). In Malaysia, Northport has been offer halal logistic service such as halal warehouse that recognize by Jabatan Kemajuan Islam Malaysia (JAKIM) for import and export halal goods activity (Corporation, 2017)

As the main player in maritime business, the level of service quality plays the big role to sustain in the very competitive business like a seaport. Kelly (2005) claimed that to excessive competitive business atmosphere, the establishment of high-quality service is one of the important factors for success. Even though Northport came to be the only port that offers halal warehouse service, this not meant that halal goods exporter will use their service. There is no obligation by law for a halal industry player to use halal logistic (Ngah et al., 2014). Meanwhile, the halal logistic service is not getting high attention from the halal industry players (Hamid et al., 2014)

Malaysian halal goods exporters have a big potential to use Singapore Port as their gateway for their export activities (Mutalib et al., 2016). The quality of service has a close connection with customer satisfaction. It becomes an important element for seaport user such as halal warehouse adopter. The level of service quality will influence the loyalty of customer (Ismail & Yunan, 2016) and the customer retention (Shariff et al., 2016)

Satisfaction came from customer experience towards a level of service quality that they
get compared with a level of service quality that they estimated (Caruana et al., 2000). The decision to adopt or not is influenced by the frustration of adopter to the innovation performance (Rogers, 1995). The halal logistic provider will face difficulty to get a financial performance such as the return of investment if halal warehouse adopters choose to reject or discontinue the adoption. Customer satisfaction can be a factor affecting financial performance (Chi & Gursoy, 2009).

Although there are several studies on service quality measurement in various industries, they are lacking in terms of study that centres around the maritime industry more specifically in halal warehouse adopter satisfaction. Rather than focusing on detailed of customer satisfaction measurements, most maritime-related literature researched the issue of another carrier and seaport selection (Malchow & Kanafani 2004 and Yeo et al. 2015), reputation (Bennett et al. 2010), cost (Teng, Huang & Huang, 2004, Lam & Yap, 2006 and Subhan, 2016; Teng et al. 2004) hinterland (Teng et al. 2004, Notteboom & Rodrigue 2005 and G. Yeo, Roe & Dinwoodie, 2008). According to Ha (2003), previous studies of container seaports have tended to focus on facility development, seaport management, seaport privatization, terminal operating costs and schemes to remove physical constraints to efficient operation.

There are several studies that discuss the relation between quality of seaport and customer satisfaction such as (Ha, 2003, Cho, Kim & Hyun, 2010, Shanaki, Ranjbar & Shakhisian, 2012, Lee, Tongzon & Chang, 2013, G. T. Yeo et al., 2015 and Thai 2015). However, these previous studies did not discuss the service quality on halal warehouse and the adopter satisfaction. Therefore a study on service quality at halal port terminal is needed and will enhance the understanding regarding service quality and halal warehouse adopter satisfaction.

The seaport that gives poor quality services will get a bad reputation from their customer. Seaport user is not giving high rankings to the northeast Asian major container ports in service quality factors and need to improve their service quality in various service categories (Ha, 2003). This support by Mutalib et al. (2016) that Malaysian port has an issue on service quality. Therefore it a need performs study regarding the level of service quality on port service such as a halal warehouse. Study on another sector of port besides container terminal is highly needed (Yeo et al., 2015).

2.0 Review of the literature
2.1 Customer Satisfaction
Essentially, customer satisfaction is the sense that customers get when they experience service that fulfills or surpasses their expectation. Service quality can influence the level of customer satisfaction (Ismail & Yunan, 2016) and outcome of service quality is customer satisfaction (Yeo et al., 2015). It means that it is related to the quality of the products or services provided to the customer in a positive manner.

The effective of service business such as seaport service are related with the understanding of business organization regarding their customer needs such as a halal warehouse. The adopter of halal warehouse needs a warehouse service that sharia compliance. Its support by Pantouvakis & Lymperopoulos (2008) that conclude a deeper understanding of the interactions among customer satisfaction, physical and interactive
elements and customer repeat patronage should go a long way in improving management effectiveness in the service sector.

Seaport Customer will be satisfied with the quality of seaport if their needs can fulfill by port management. Customer satisfaction will influence the customer to repurchase the service again such as halal warehouse (Kitapci et. al, 2014).

There are several past studies were conducted regarding customer satisfaction in a different population such as shipping companies and freight forwarders (Chang & Thai, 2016; Shin & Thai, 2014); Korean smartphone users (Kim et al., 2016); patient at health care centre (Vogus & McClelland; 2016) Singapore Shipping Association and Singapore Logistics Association (Thai, 2015) IT and logistic service provider company (Bellingkrodt & Wallenburg, 2015); users of container shipping services (Yuen & Thai, 2015a); student university (Herman, 2014; Segoro, 2013); e-retailing user (Subramanian, Gunasekaran, Yu, Cheng, & Ning, 2014); customer private banking industry (Seiler, Rudolf & Krume, 2013); consumer of DIY retailer firm (Walsh, Evanschitzky & Wunderlich, 2013); parents of student school (Bejou, 2012); restaurant customer (Ryu & Han, 2010);

Previous studies concluded there are several predictors for customer satisfaction as shown in Table 1

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<th>No.</th>
<th>Predictor</th>
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<tr>
<td>1</td>
<td>Service Quality</td>
<td>Chang &amp; Thai (2016)</td>
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<td>2</td>
<td>Corporate Social Responsibility</td>
<td>Shin &amp; Thai, 2014</td>
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<td>3</td>
<td>Innovative of Service Provider</td>
<td>Bellingkrodt &amp; Wallenburg (2015)</td>
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<td>4</td>
<td>Customer Value</td>
<td>Herman (2014)</td>
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Table 1 : Predictor for Customer Satisfaction

Customer satisfaction also has been proven to be a predictor for customer loyalty (Kim et al., 2016; Seiler, Rudolf & Krume, 2013; Walsh, Evanschitzky & Wunderlich, 2013; Bejou, 2012).

2.1 Seaport Service Quality

Service quality is a multi-view concept and may be interpreted from language and organizational perspectives. In terms of language perspective, it is often viewed as subtle, difficult to repeated and influenced by individual attitudes and perceptions (Aryee et al. 2013; Sriram, Chintagunta & Machanda, 2015; Yuen & Thai, 2015). Based on this viewpoint, it has broadly interpreted as a long-run overall assessment (Parasuraman, Zeithaml & Berry 1985; Zeithaml, 1988) and overall evaluation of service at multiple levels in an organization (Sureshchandar, Rajendran & Anantharaman, 2002; Brady & Cronin, 2001). This assessment is made by comparing between customer expectations before and after their experience of the
service (Gronroos, 2007). If customers view that their expectations for service performance confirm their perceptions of the service then service quality is considered achieved (Gronroos, 2007; Kitapci, Akdogan & Dortyol, 2014; Parasuraman et al., 1985; Zeithaml 1988).

Seaport service quality is a term to refer to the level of service quality provided by seaport management. It important as the service quality plays a big role in influencing customer satisfaction. It also can be a pull factor for seaport to attract their client. One way to differentiate a firm’s services from its competitors is by offering high-quality services (Yuen & Thai, 2015). By offering the high quality of services, seaport will fulfill the needs of their customer. Different from physical product whereby its quality can be specified and evaluated in advance, service quality was claimed to be more difficult to understand, difficult to replicate and dependent on human attitudes and perceptions.

Resources, outcomes, process, management, image, and social responsibility (ROPMIS) has been identified as an element to measure the relationship between seaport service quality and customer satisfaction on port service (V. V. Thai 2008, 2015; Yeo et al. 2015).

There are several past studies concerning service quality in a different population such as customers container haulage company (Shariff et al., 2016); passenger Airport Terminal (Steven, Yazdi & Dresner; 2016; Hussain et al., 2015); students in Malaysian public universities (Ali et al., 2016) members of the Korean Port Logistics Association (Yeo et al., 2015); shipping company industrial expert (Pak, Thai & Yeo, 2015); medical health care patients (Ismail & Yunan, 2016; Ismail, Zaki & Rose, 2016; Rao Kondasani & Panda, 2015; Kitapci et al., 2014; Al-Borie & Damanhour, 2013; Ozturkcan et al., 2009; Baldwin & Sohal, 2003); department store customer (Wong & Sohal, 2003), hotel guest (Su, Swanson & Chen 2016; Akbar et al., 2010); customers at telecommunication firm (Alnsour, Tayeh, & Alzyadat, 2014).

The previous study concluded that service quality is proven to be a predictor for customers satisfaction and loyalty. Service quality studies found that it is a critical success factor to increase the satisfaction of shareholder, retain existing customers, attract new customers, succeed business strategies, enhancing the critical learning experience, increasing competitiveness and profitability in the era of knowledge-based economy. Therefore the proposition is:

P1 : There are positive relationships between seaport service quality and innovation adopter satisfaction

3.0 Conceptual Framework

Seaport service quality is proposed to become an influence factor on halal warehouse adopter satisfaction. The framework is illustrated in Figure 1 below

![Conceptual Framework Diagram]

Fig. 1. The proposed conceptual framework
4.0 Research Implication and Conclusion

As earlier mentioned, the purpose of this conceptual research is to seek the relationship between port service quality and innovation adopter satisfaction. This study contributes to the existing literature on service quality and innovation adopter satisfaction. The managerial implication is this research will give a seaport management input to determine the level of service quality from the perspective of their innovation adopter. This research also can be used by halal local authority such as Jabatan Kemajuan Islam Malaysia (JAKIM) and Halal Development Corporation (HDC) to identify the impact of service quality on halal logistic adoption. From the theoretical perspective, this research will fill the gap on the port service quality study by test this study at halal logistic warehouse. A scholar such as Yeo et al. (2015) has encouraged the service quality study research in other port industry sector besides container cargo terminal. This paper also can give an input to the local authority such as Jabatan Kemajuan Islam Malaysia (JAKIM) and Halal Development Corporation regarding the level of service quality on halal logistic practice.

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