



The Mediating Effect of Enterprise Competitiveness on the Relation between Operational Service Quality Management and Customer Perception Level ☆

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Abstract

The purpose of this research is to examine the mediating effect of enterprise competitiveness on the relationship between operational service quality management and customer perception level of freight forwarders' services in East Coast region of Peninsular Malaysia. Data were collected from 106 customers of freight forwarders through accessible random sampling method. Usable data were analyzed through Partial Least-squares Structural Equation Modeling (PLS-SEM) approach using Smart PLS-SEM software version 3.2.8. The validity of the survey questionnaire was confirmed using content validity, structural validity and expert validity. The results revealed that operational service quality management influences customer perception toward service providers' services. Meanwhile, enterprise competitive mediates the relationship between operational service quality management and customer perception on service providers' services. The enterprise competitiveness was found to be a driver for better customer perception on freight forwarder service providers. Besides, it has a strong mediating effect which ultimately effect on both customer perception level of satisfaction and could enhance customer perception on operational service quality management through words of mouth. These findings would therefore offer the freight forwarders' management teams a new perspective in developing a better operational service quality management strategies and practices with emphasis on enterprise competitiveness. It also demonstrates the significance of enterprise competitiveness in donimating towards consumer perception in service preference and future repurchase intension.

Keywords: enterprise competitiveness, operational service quality management, customer perception, freight forwarders.

1. Introduction

Customer perception is believed to have as an inevitable relationship with the operational service quality management and it also appears to be a measurement of satisfaction level in any service sector. This study extends the previous studies to examine the mediating effect of enterprise competitiveness in bridging the relationship between operational service quality management and customer perception level. The customer perception is important to a company because it will determine the service providers' growth and supported by Ogungbayi et al. (2019). Customer perception is a key to build long-term relationship with customers (users) in any services industry such as freight forwarder. In the marketing literature, customer perception has shown a strong positive relationship with customers' behavior intentions (Chao Wen et al., 2012). Therefore, it can be hypothesized that the operational service quality management by a freight forwarder has a great effect on customer experience of perceived satisfaction with the service rendered by freight forwarders. It has been recognized as a critical determinants of customer attractiveness and satisfaction in selecting a service provider (D. N Shariff et al., 2017). Consequently, the value of operational service quality management is highlighted in the present study, specifically in the context of freight forwarder service management. Furthermore, operational quality practiced by freight forwarder is predicted to influence customer repurchase intention (to use the services). Therefore, measurement of operational service quality management is important, especially a reliable and scientific way from a customer's perception. Among others, by exploring the root causes of problems arising from the management practices of freight forwarder providers. Subsequently, improvement measures can be taken to enhance customer repurchase intent with the ultimate goal of surviving in the increasingly competitive freight forwarder industry due to new entries either from local or global.

According to Shariff et al. (2016) Malaysian maritime industry is facing the issue of service quality delivery in order to attract, retain and enhance customer perception. Thus, the Malaysian government is committed to enhance the performance of Malaysian maritime service providers (Malaysian Export Directory, 2012). However, limited studies have been carried out on operational service quality management from customer's point of view

(Mohammad & Alhamadani, 2011; Chavan & Ahmad, 2013). In addition, very few studies have been conducted on this issue in Malaysia as well as in some developing countries service industry based on customer perception, especially in the freight forwarder industry (Khalid, 2008)

Meanwhile, intensified competition among service providers has pressurized companies to be more attentive to the service quality rendered to customers (Li & Lu, 2010). This study therefore attempts to fill the gap by investigating the mediating effect of enterprise competitiveness in bridging the relationship between operational service quality management and customer perception level in the freight forwarder industry of a developing country such as Malaysia. The outcome of the present study is expected to be able to assist freight forwarders to improve the overall level of customer perception (in term of satisfaction) and it will also be useful to governments and service delivery sectors to which the competitiveness is complex and much significant.

2. Literature Review

2.1 *Operational Service Quality Management*

The performance operational service quality management is generally measured through subjective evaluation by customers as a result of service experience. Therefore, perceptions of operational service quality are created after services are offered or rendered and consumed. Customers perception also play a key role in maritime service providers' assessment as the service provided are directly proportional to the customer satisfaction and through words of mouth each customer generally compares the tangible services with his/her own expectation, perception and experience.

Parasuraman et al. (1988) has developed a gap analysis model to measure the influence of service quality based on the integrated view of consumer-company relationship. This model provides five generic dimensions of service quality, namely tangible, reliability, responsiveness, assurance and empathy with some additional extension of dimensions. For example, if the customers perceived that the service providers' implementation of quality (dimensions) in executing operational services, in day to day task strongly fulfill their needs and expectations, they may induce a positive customer behavior towards the service provider (Aziman et al., 2016). From this theory several recent studies were

conducted using direct and indirect effects models to examine service quality in various services industries. Those surveys reported that the capability of service providers to apprehend and practice on tangible, responsive, reliable, assured and empathy with some additional extension of dimensions in performing operational daily tasks have enhanced positive image of customer perceive outcomes, especially on customers' satisfaction (Zaki & Rose 2016; Hussain et al. 2015; Kitapci et al. 201; Al-Borie & Damanhour 2013). Furthermore, recent studies revealed that competency, facilities and management professionalism (Shariff et al., 2017), and enterprise competitiveness have direct influence on customer satisfaction perceive level.

The operational service quality management is considered to be a critical success factor for contemporary service provider particularly in relation to customer satisfaction perception toward the organization (Ograjensek et al., 2012). Quality is generally regarded as a key factor in the creation of worth and in influencing customer perception level to render a service.

2.2 Customer perception level

Customer perception is a marketing concept that express what customer's reflection on an enterprise or brand offer. Customer perception and purchase behavior of a service provider like freight forwarder is basically measures the development of customer perception through different variables and identify those factors which influence their satisfaction and repurchase decision.

According to Raji and Zainal (2016) customer perception is defined as a broad imagination that customer create in their mind and interpret that imagination as a bigger meaningful picture of a services given by providers. However, customer perception level reflects on the value perceived by the customer which link to the service delivered by the provider and whether meeting their satisfaction levels. Therefore, Amin, Falk, and Schhmitt (2014), highlighted that the customer perception may be generated since the first time the customer in contact with the services or product. Further, the customers will form a judgment about the value of a services or product before purchasing a product or rendering a service. In addition, the customer perception could be prejudiced by their previous experience which already received with the similar services either by different or same service provider (Rani et al., 2014). This may also apply in the selection of freight forwarder services.

Generally, poor quality in customer service experience is resulted of the lack of enterprise managerial skills. It puts more emphasis on the perceptions of the customers against the service provider (Abdullah et al., 2014). This view was supported by Erol (2015) where he highlighted that it is the poor service delivery that causes a great damage to a service provider especially to those SMEs. It was due to lack of skilled and trained staffs.

Furthermore, previous literature has reported that the operational service quality has positive relationship with customer perception level. It is generally observed that organizations pay sufficient attention to understand the nature of operational service quality management and less attention on customer perception of satisfaction level. The employees in the front line are the customer-contact employees who represent the enterprise to the customer and can directly influence customer perception level.

Customer perception on satisfaction is also a kind of reflection of the quality offered and which is a source of customer repurchase loyalty towards the enterprise (Dulska et al., 2017; Futas et al., 2017; Jelonek et al., 2017).

2.3 Enterprise Competitiveness

In a highly competitive business environment, an enterprise has to ensure, secure and stable in its relative market positioning. They must constantly look for ways to convince customers (current and potential) that their services are competitive and represent a sufficiently high level of quality depend on their needs and wants. The service enterprises use specific approaches and tools to analyse the quality of their services and ensuring that their services are competitive in the relative market. This approach is also in line with the study conducted by (Arslan & Tathdil, 2012). One of the important elements of such an analysis is the assessment of customer satisfaction and their perception on enterprise service delivery.

The importance of the enterprise competitiveness has been studied by Oana (2016) which revealed that competition encourages innovation and stimulating economic growth. It has been supported by the findings by Suraksha (2016), Kamp and Parry (2017) that there is a link between enterprise marketing innovations such as digitalization and application of ICT (Information Communication Technology) that has enhanced their customers repurchase intentions toward an enterprise competitiveness. These studies, however, were not restricted to the small and medium enterprises (SMEs)

A question thus arises as to the ability of SMEs freight forwarder services with limited financial

resources and computer literacy to be competitive by providing better operational quality services in terms of digitalization and ICT application. Therefore, this study takes an approach to test the relative influence of enterprise competitiveness on customer perception level that has stimulated operational service quality management of customer (users) in SMEs freight forwarder service industry. This study analyses the approaches and strategies which have been carried out by SMEs in freight forwarder service industry especially the application of ICT and technologies under Industrial Revolution (IR 4.0). In the era of modern business which is highly competitive, manufacturing climate is characterized by increasingly sophisticated consumers that demand customized products with short lead times. Furthermore, by acknowledging the importance of flexibility as an added value in meeting customers' demands, with continuous effort in improving responsiveness could improve their enterprise's competitiveness (La Hatani et al., 2013; Jordan & Pelinescu, 2014).

3. Conceptual Research Framework

Based on previous research related to competitive enterprise business market structure, a conceptual framework is developed to test the mediating effect of enterprise competitiveness in linking the relationship between operational service quality management and customer perception for the freight forwarder industry. Therefore, this study suggests a conceptual research framework that forecasted that the operational service quality management (IV) has a significant influence on customer perception (DV). In addition, enterprise competitiveness plays the mediating role (MV) between the relationships as in (Figure 1). To confirm these hypotheses, direct and indirect interaction effects among operational service quality management, customer perception and enterprise competitiveness will be examined.

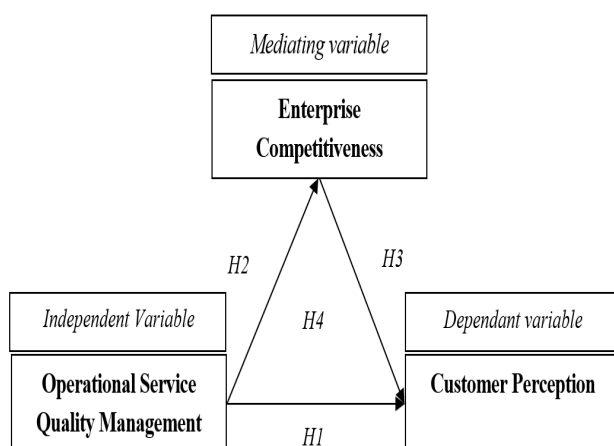


Figure 1: Conceptual Research framework

As a result of the discussion in the literature review section, a configuration that include combinations of enterprise competitiveness of the operational service quality management and the customer perception, four hypotheses were developed for testing in this study. The hypotheses are as follows.

H₁: Operational service quality management is positively related to customer perception in freight forwarder industry.

H₂: Operational service quality management is positively related to enterprise competitiveness in freight forwarder industry.

H₃: Enterprise competitiveness is positively related to customer perception in freight forwarder industry

H₄: Enterprise competitiveness mediates the relationship between operational service quality management and customer perception in freight forwarder industry.

4. Method

This study employed a quantitative research approach. Primary data were collected through the survey method. Survey instrument was developed and validated based on the factor analysis using Statistical Package for Social Sciences. The minimum sample size required for this research was 106 determined as suggested by G-power software. A targeted sample random population of 120 questionnaires were sent out to both customers (users) of freight forwarder services and freight forwarder association/ entrepreneurs in East Coast region of Peninsular Malaysian. Finally, out of 120 questionnaires distributed, only 106 were returned are usable. The majority of usable questionnaires came from respondents of the customers (users) who are using the freight forwarder services about (81%) and freight forwarder association/ entrepreneurs which is only (19%). Respondents were asked to rate each item according to their experience based on a 5-point Likert scale varying from 1 = very poor, 2=poor, 3=fair, 4=good and 5 = excellent. SmartPLS 3.2.8 was applied to run the Partial Least-Squares Structural Equation Modeling (PLS-SEM) data analysis. PLS-SEM was used for data analysis because PLS-SEM's comprehensive statistical approach allows for the real-time assessment and adjustment of a conceptual framework.

5. Results

5.1 Measurement Model

Table 1 shows the measurement model of PLS-SEM. The measurement model evaluated the reliability and validity of the constructs. The VB-SEM SmartPLS 3.2.8 was applied for 106 samples to test the hypothesis. Composite reliability (CR) and average variance extracted (AVE) requirement were determined in the course of such evaluation (Hair et al. 2014; Hair et al., 2017). In this specific study

composite reliability (CR) of all constructs were above 0.90, gratifying the rule of thumb of (Hair et al., 2014; Hair et al., 2017). All constructs have AVE above 0.5, which demonstrated a satisfactory degree of convergent validity as suggested by Fornell and Larcker (1981). The table 1 shows all the values were above the suggested value points. Thus, confirming accomplishment of convergent validity. Moreover, EC5, EC4, EC7, EC8, OSQM1, OSQM9 and OSQM14 were deleted due to AVE which is less than 0.5. Table 1 and Figure 2 shows the results of the measurement model.

Table 1: Measurement model of PLS (n=106)

Latent Variable	Items	Loading	AVE	CR	CA
Operational Service Quality Management	OSQM10	0.702	0.507	0.919	0.902
	OSQM11	0.730			
	OSQM12	0.683			
	OSQM13	0.743			
	OSQM2	0.620			
	OSQM3	0.713			
	OSQM4	0.698			
	OSQM5	0.688			
	OSQM6	0.734			
	OSQM7	0.779			
Enterprise Competitiveness	OSQM8	0.731	0.509	0.912	0.892
	EC1	0.713			
	EC10	0.652			
	EC11	0.723			
	EC12	0.761			
	EC13	0.831			
	EC14	0.720			
	EC2	0.695			
	EC3	0.716			
	EC6	0.652			
Customer Perception	EC9	0.653	0.591	0.935	0.923
	CP1	0.793			
	CP10	0.854			
	CP2	0.794			
	CP3	0.769			
	CP4	0.808			
	CP5	0.758			
	CP6	0.657			
	CP7	0.722			
	CP8	0.742			
	CP9	0.779			

Note: EC5, EC4, EC7, EC8, OSQM1, OSQM9 and OSQM14 were deleted due to AVE less than 0.5; AVE: Average Variance Extracted, CR: Composite Reliability; CA: Cronbach's Alpha

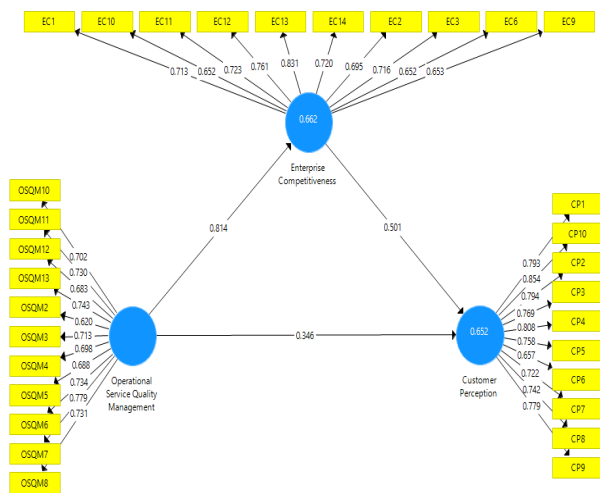


Figure 2: PLS-Path analysis of R-square values (n=106)

5.2 Discriminant Validity

Apparently, the Heterotrait-Monotrait (HTMT) ratio has been established as a special criterion in comparison to the more outdated assessment proposed by Fornell and Larcker (1981). Previous study recommended the construct thresholds value of 0.85 (Kline, 2011) and 0.90 (Gold et al., 2001). HTMT also suggested discriminant validity of 0.90 (Henseler et al., 2015). The current study employed the HTMT of 0.90 to evaluate the discriminant validity. Therefore, the HTMT ratio criterion is established in the present study. This rule of thumb is also supported by Gold et al. (2001) Table 2 exhibits the outcomes of the discriminant validity assessment of the measurement model.

Table 2: Discriminant validity of Heterotrait-Monotrait Ratio (HTMT) (n=106)

Latent Variables	1	2	3
1. Customer Perception			
2. Enterprise Competitiveness	0.849		
3. Operational Service Quality Management	0.812	0.897	

5.3 Structural Model

The beta value of the structural model is measured and bootstrap analysis with 5000 resamples was applied to assess the structural model of significance of direct and indirect effects of beta values (Hair et al., 2016). The beta value, t-value results and the significant level of each path were tested. Based on the findings from the bootstrapping result, the supported and not supported of the suggested hypotheses are decided. The path from operational service quality management towards customer perception were tested. The findings demonstrated that the enterprise competitiveness could influence customer perception.

The results are presented in Table 3 and Figure 3 shows that operational service quality management towards customer perception ($\beta=0.346$, $t\text{-value}=3.109^{***}$, $p<0.001$), operational service quality management towards enterprise competitiveness ($\beta=0.814$, $t\text{-value}=27.264^{***}$, $p<0.001$) and enterprise competitiveness towards customer perception ($\beta=0.501$, $t\text{-value}=4.555^{***}$, $p<0.001$) were statistically significant. Hence, hypothesis H₁, H₂ and H₃ were supported. In addition, the results of the mediating effect of enterprise competitiveness relationship between operational service quality management and customer perception showed that H₄ mediating relationship was statistically highly significant.

From Table 3, the VIF value shows the range from 1.00 to 2.961, suggesting there is a lack of multicollinearity in the research framework. Therefore, it is essential to calculate the effect size (f^2) since it shows the degree to which an independent latent variable influences the dependent variable. Cohen (1998) suggested that the values of 0.02, 0.15 and 0.35 represent small, moderate and substantial effect size, respectively. Based on the reference of Cohen (1998), it might be incidental that operational service quality management has a substantial effect on the enterprise competitiveness.

Table 3: Significance of direct effects- Path coefficients (n=106)

Hypothesis	Path	Beta value	SE	t-value	p-values	Result	VIF	f ²
H1	OSQM → CP	0.346	0.111	3.109***	0.001	Supported	2.961	0.116
H2	OSQM → EC	0.814	0.030	27.264***	0.000	Supported	1.000	1.961
H3	EC → CP	0.501	0.110	4.555***	0.000	Supported	2.961	0.243
H4	OSQM→EC→CP	0.407	0.092	4.425**	0.000	Supported	-	-

Note: * $p<0.05$, $t>1.645$, ** $p<0.01$, $t>2.33$, *** $p<0.001$, $t>3.06$ (one tailed); * $p<0.05$, $t>1.96$, ** $p<0.01$, $t>2.58$

(two tailed); SE: Standard Error

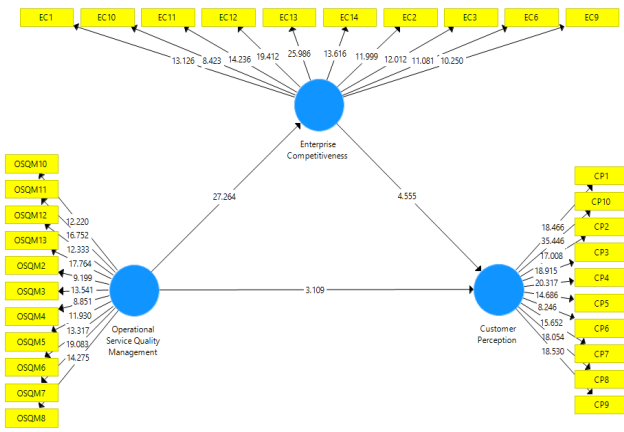


Figure 3: PLS-Path analysis of t-values (n=106)

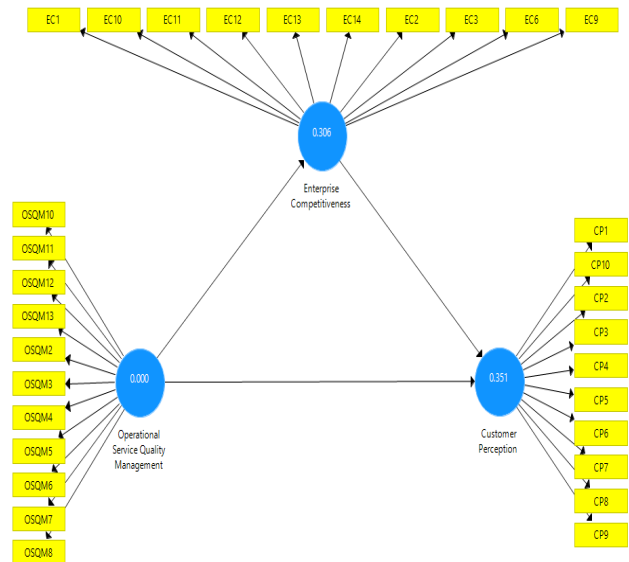


Figure 4: Predictive relevance (MV) ($Q^2=0.306>0$); (DV) ($Q^2=0.351>0$)

5.4 R-Square value (R^2) and Predictive relevance (Q^2)

The R^2 value for enterprise competitiveness and customer perception are 0.652 and 0.662 respectively, signifying that 65.2% and 66.2 % of the variance in customer perception can be described by the operational service quality management and enterprise competitiveness. According to the predictive relevance procedure, Q^2 assesses the predictive validity of a model through PLS. When Q^2 values are greater than zero specifies that the exogenous variables have predictive relevance for the endogenous variables (Hair et al., 2011). The Q^2 of MV and DV indicate that the research framework has a good predictive relevance. Table 4 and Figure 4 exposes that the predictive relevance of redundancy values Q^2 for endogenous variables are 0.306 and 0.351 respectively, which is greater than zero (Fornell, Larcker & Cha, 1994).

Table 4: R-Square value and Q-Square value (n=106)

Endogenous Variables	R^2	Q^2
Customer Perception	0.652	0.306
Enterprise Competitiveness	0.662	0.351

5.5 Model Fit

It is vital to demonstrate that the standardized root means of square residual (SRMR) as the estimated of model fit (Henseler et al., 2014). A SRMR score below is 0.08 suggested that it has reached a suitable fit for a PLS path model. Since, this study has reached a substantial value of 0.078, shows it has achieved the essential value for an adequate fitting. Moreover, the SRMR was less than the anticipated threshold value of 0.080, which indicates an acceptable model fit. In addition, the Goodness-of-Fit (GoF) of research framework is used to define how well it fits into a set of models (Tenenhaus et al., 2005). GOF lies between 0 and 1, shows a greater value and characteristic of a better path model assessments. Moreover, the total Goodness of Fit in this study is 59.3%.which is greater than the rule of thumb.According to Wetzel et al. (2009), the thumb rule of GoF is above 0.36 for an excellent PLS model for the data-set.

6. Discussion

The structural model in figure 3 and Table 3 above, presented the results of the hypothesis testing. The results showed that enterprise competitiveness exists to be the mediating effect in relation between operational service quality management and customer perception in freight forwarder industry of East Coast region of Peninsular Malaysian. Consequently, operational service quality management is positively related to customer perception and also enterprise competitiveness. All the four hypotheses namely H1,

H2, H3 and H4 were significant and therefore accepted. The result above also shows operational service quality management is positively related to customer perception in freight forwarder industry. The encounter is critical in achieving excellent operational service quality management and keeping the customers satisfied and that was reflected in customer perception level. Therefore, if customers view the service quality management conformed with their perception level than this situation could enhance positive customer outcomes (Ismail et al., 2016), and inducing continuance repurchase intention. It is also revealed that customers in this Industrial Revolution (IR 4.0) era are looking for increasing creation in innovation as added value solutions. Including through the “Internet of Things” (IoT), cloud computing in warehousing and smart distributions. Despite of customers’ main concern were still on service providers like freight forwarder to react effectively and timely during a service failure followed by safety of transport, all are related to quality of services (Wang et al., 2016). It is also considered as the evaluation criteria of customer perception. These findings are in line with Gil-Saura et al., (2018) which highlighted that the new industrial revolution will be characterized by merging of technologies such as added value solutions through internet (IoT). These new emerging technology under (IR 4.0) are proposed for useful practical application for the freight forwarders industry.

There are no different views among the respondents (entrepreneurs) as they are in the same cluster from small and medium enterprises (SMEs). In the east coast region, they are of the SMEs with small volume of cargoes less than 50 containers a month. As compared to other parts in Malaysia like SMEs in Klang Valley in general and other ASEAN region like Singapore, entrepreneurs from this cluster are lack of financial (Eniola, A.A. and Entebang, H., 2017) and less competence in agility of computer literate to catch with IR 4.0 forwards

Based on the result of the analysis performed above, all the assessment displayed positive influences. Therefore, it supported the assessment that the two studied variables namely (1) the operational service quality management provided by the enterprise or organization (Subhashini & Preetha, 2018) and variable (2) the level of customer perception towards enterprise or organization reaction has effected on business growth (Zainal Abedin et al., 2016). The analysis also shows that enterprise competitiveness has a direct and significant effect on customer perception level. Hypothesis 4 can thus be established and accepted. This study corresponds to the studies conducted by Katarina Valaskova et al. (2018) and LS Dalenogare (2018) which concluded

that there is a liner relationship leading from operational service quality management to competitiveness. These findings also demonstrated that the effect of enterprise competitiveness in industry revolution (IR) 4.0 on customer perception is more complex especially in service industry.

7. Conclusions and implication

The aim of this study mainly focused on the discussion and analysis of freight forwarder industry in Malaysian as the maritime freight transportation. On overall, the findings of this study identify the mediating effect on enterprise competitiveness on the relationship between operational service quality management and customer perception in SMEs freight forwarder industry of East Coast region of Peninsular Malaysian.. The study used SmartPLS-SEM modeling shows that both the extent of operational service quality management and enterprise competitiveness are significant in accommodating a positive customer perception towards the sustainable growth of freight forwarder entrepreneurs’ business. The customer (users) having the intention to return (repurchase) for the same service freight forwarder provider if they are responsive enough towards their operational service quality management according to customer-oriented strategies and adopted innovative value-added marketing solution practices of enterprise competitiveness in freight forwarder industry. Particularly, the implication of these findings can be very significant and purposive to all the freight forwarder entrepreneurs in enhancing Malaysian freight forwarder enterprise competitiveness and would generate a better positioning in the industry. Consequently, these findings also demonstrated that the effect of enterprise competitiveness in industry revolution (IR) 4.0 on customer perception is more complex especially in service industry. Customers are looking for increasing creation in innovation as added value solutions On the other hand, this study could assist the government policy makers in setting a measure to support the sustainability growth of small and medium enterprises (SMEs).

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