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IMPACT OF QUALITY MANAGEMENT PRACTICES ON POSITIONING COMPETENCY OF LOGISTICS SERVICE PROVIDERS IN PAKISTAN

Muhammad Shaiq, Dr. A.Q. Mughal, and Dr. S. Khurram Khan Alwi

ABSTRACT

The impact of Quality Management (QM) on overall business performance is a widely researched topic in business management subject, but its impact on service competencies of third-party logistics (3PL) service providers is comparatively a far less researched topic. This research is a cross-sectional study giving a current snapshot of the extent of application of various quality management practices and to explore the impact of key dimensions of Malcolm Baldrige National Quality Award (MBNQA) on the positioning competency of the 3PL service providers in Pakistan. In this empirical study, hypotheses were formulated about the association and impact of various quality factors on positioning competency. The results showed a strong and highly significant relationship of QM practices with positioning competency. Further, the impact of these factors as organizational and individual strength was also found significant. The analysis further demonstrated that at an individual level, the customer focus and HR management focus are the two most significant predictors impacting the positioning competency of the 3PL service providers in Pakistan.

Keywords: *Quality Management, Third Party Logistics (3PL); Malcolm Baldrige National Quality Award (MBNQA); Service Competency; Logistics Service Providers (LSP); China Pakistan Economic Corridor (CPEC).*

INTRODUCTION

Logistics related activities are not a part of the core business activities of manufacturers and exporters; thus, such activities are mostly outsourced relying on the capabilities and operational competencies of Third-Party Logistics (3PL) service providers. Such Logistics Service Providers (LSPs) mainly act as an operational link between two or more business

partners whose mutual business relationship and future business growth are directly affected by the level of performance and quality of services offered by the LSPs. The ability of 3PL service providers, to operate according to internationally acceptable standards, is very vital for their own survival in the international market. Simultaneously, meeting the expectations of their clients in terms of cost and quality of service is also a prerequisite for LSPs, to have more clients and get more business. Offering better services is important not only from the viewpoint of LSPs' own business success and performance but also from the viewpoint of shippers who hire their services. Kalinzi (2016), discussing the main reasons to outsource, mentioned that the service competencies; cost of service; flexibility; and focus on core activities are four main characteristics which drive shippers to outsource logistics to 3PL service providers. Out of these four main reasons, there is only one cost-related factor and the remaining three are directly or indirectly related to service competencies. In such a situation, in order to be competitive, effective, and efficient in the market, it becomes imperative for 3PL service providers to continuously improve their service competencies by adopting better Quality Management Practices (QMPs). Sridevi and Kumar (2015), discussing the services competencies of 3PL service providers, emphasized that the quality of service is considered as a key to service competencies.

The 3PL industry in Pakistan is in its infancy and in comparison, to most of the Western and few Asian countries, it is also unregulated and unorganized. Recent development under China-Pakistan Economic Corridor (CPEC) project, which is a part of China's One-Belt-One-Road (OBOR) initiative, has attracted the attention of local researchers to assess and explore the capabilities and competencies of 3PL industry in Pakistan. In this context, it is necessary for Pakistan's logistics industry to be able to meet the operational challenges and optimally utilize and exploit the expected opportunities. This research paper is an effort to explore the impact of Quality Management Factors (QMFs) on service competencies of 3PL service providers in Pakistan. According to Poon and Tong (2011), a lot of research has been carried out and an excessive amount of literature is available on quality management frameworks with reference to business performance. A major portion of such research carried out in the last two decades was on overall quality management frameworks and business performance (Al-Qahtani, et al., 2015; Poon & Tong, 2011; Ding, Kam & Lalwani, 2011;

Kersten & Koch, 2010; Zhao, Flynn & Roth, 2007). Most of the researchers, instead of studying the impact of the total management framework, only selected one or two quality factors and studied their impact on business performance. Unfortunately, no previous research was found to assess the extent of the application of QMFs and their impact on service competencies of the 3PL industry in the context of Pakistan. Chowdhury (2013), mentioned that although the importance of service competencies is generally and commonly acknowledged by researchers in management literature, limited academic research is carried specifically on positioning competency of LSPs. Chowdhury (2013), further opines that limited research is carried out in the recent past focusing on the positioning of product or service.

The main objective behind this research work is to address the research gap persistent in the logistics industry, as there is no prior work on the impact of QMFs on the positioning competency of LSPs in the context of Pakistan. Thus, the findings of this study will contribute to filling part of the knowledge gap about managerial practices and their impact on the positioning competency of 3PL providers. This study will also redound to the benefit of the logistics industry by identifying the specific QMFs which help to improve their positioning competency. Since this study is carried out in the context of LSPs in Pakistan so it is assumed that they will especially get some operational guideline to concentrate more on the factors which need to be improved further. Especially in the backdrop of CPEC, it is the need of time that LSPs in Pakistan concentrate more on the development of their soft managerial skills and service competencies to optimize their benefits from the infrastructural development through CPEC.

RESEARCH QUESTION

What is the impact of various quality management practices on the positioning competency of 3PL Service Providers?

RESEARCH OBJECTIVES

The main objectives of this research are specified below:

- To explore the extent of application of Quality Management Practices in the 3PL industry and to study their collective influence on the positioning competency of 3PL operators in Pakistan.
- To observe how organizational strength and individual strength of logistics firms affect their positioning competency.
- To find out which quality management factors highly impact the positioning competency of 3PL service providers in Pakistan.

LITERATURE REVIEW

According to Li (2014), logistics is no more confined to transportation and storage, rather it covers a wider span of activities including sourcing, material handling, packaging, network designing, freight consolidation, distribution, inventory management, cross-docking, parts and service management and reverse logistics. Zacharia, Sanders, and Nix (2011), stated that instead of simply being the provider of logistics services, now 3PL has emerged as the builder and architect of supply chains creating competitive advantage. As indicated by Sridevi and Kumar (2015), this paradigm shift gave birth to a whole new concept of logistics outsourcing, and the 3PL providers grew as one of the most important service support industry for manufacturers, exporters, and retailers. Zhang and Okoroafo (2015), mentioned that the main motive behind the logistics outsourcing and the emergence of 3PL was the expected benefit of improved service at a lesser cost for the outsourcer. In recent times many researchers have turned their attention towards assessing how 3PL providers develop and formulate their strategies to enhance their capabilities and competencies. Research studies by Wong and Karia (2010); and Yeung, Selen, Sum, and Huo (2006), revealed that the 3PL service providers having a good mix of both cost and differentiation strategies perform better. While examining the internal organizational factors, many business researchers like; Wong and Karia (2010); Yeung et al. (2006); Lai, Ngai, and Cheng (2004); Hertz and Alfredsson (2003); Sum and Teo (1999), examined how LSPs develop relevant strategies to increase capabilities and competencies. In another study, Karia, Wong, and Asaari (2012), emphasized the need for examining the impact of quality management factors on optimum utilization of resources with special reference to 3PL service providers. An earlier study carried out by Joong-Kun-Cho, Ozment, and Sink (2008), further explained that firms generally outsource their logistics services to 3PLs because of their core competencies in providing logistics services which in turn helps them to enhance the business performance.

Service Capabilities and Competencies

In the majority of the research on service excellence and business performance, the terms capabilities and competencies are frequently used. Although these two terms are interrelated but sometimes are mistakenly used interchangeably. Markus, Thomas, and Allpress (2005), stated that in many management studies there is a widespread misconception about how the two terms competencies and capabilities differ to each other.

Barney and Clark, (2007), are of the view that exceptionality of competitive advantage is derived over a period when businesses possess strategic capabilities which are valuable, rare, and not imitable. Poon and Tong (2011), referring to older studies, mentioned that competencies are in fact an integrated framework of knowledge, passion, motives, and skills which relate to organizational performance. Campion et al., (2011) and Yusoff and Armstrong, (2012), defining the competencies stated that it is a mix of experience, knowledge, productive attitude, and a balanced mix of functional and technical capabilities.

Positioning Competency

Bititci (2016), in the book named 'Managing Business Performance', identified a few of the most renowned models to measure service competencies and business performance. Watts and McNair-Connolly (2012), in their research on management control systems and performance measurement, did a chronological review of performance measurement models. To find out the answer to the questions raised, this study followed the research foot-prints of Watts and McNair-Connolly (2012) and reviewed few renowned models used for the performance and service competency measurement including DuPont Performance Model, Result and Determinant Framework, Performance Measurement Matrix, Cambridge Performance Measurement Design Process, and Strategic Measurement Analysis & Reporting Technique. Discussing the impact of logistics competencies on business performance, Shang, and Marlow (2007), stated that the World Class Logistics Competencies (WCLC), as defined by Michigan State University Global Logistics Research Team (MSUGLRT, 1995) include four major competencies which are Positioning, Agility, Measurement, and Integration. Relatedly, Maoto (2017), found that the service competencies and performance have a strong mutual relationship. In this essence, it can be assumed that LSPs, in order to enhance their performance, must concentrate on improving their service competencies.

Pertaining to the subject, the positioning is defined as a concept that outlines what a firm ought to do in order to effectively market its services to its target market. Kotler and Keller (2013), defined it as an image of the firm's service offering, which gives the firm a preferential position in customers' minds. They further assert that positioning should be based on finding the right balance between what it is and what it aspires to be. Chowdhury (2013), mentioned that positioning is all about the strategies adopted by the organizations in order to leave a particular image of the

organization, in customer or clients' mind. Palpacuer (2000), referring various other researchers stated that currently there is a paradigm shift in the approach of strategic management towards knowledge-based competency, however, the classical approach of considering positioning competency as a source of profit generation is still the same. Moreover, the indication of Janiszewska and Insch (2012), can be substantiated that positioning should be credible, significant to the audience, differentiating from the competitors, and yielding the organization's growth. This growth, however, should contribute to increasing competitiveness.

Refereeing to the WCLC model, Goldsby and Stank (2000), explained that positioning competency is the collection of strategic and structural approaches to direct and control operations and it predominantly includes, strategy; supply chain; network; and organization. All these factors are very sensitive to the quality of managerial practices. Ding, Kam and Lalwani (2011), suggested that positioning is a key competency that LSPs require to operate effectively and competitively. They placed it as an extraordinary and unique ability to perform a wide range of logistics functions in innovative ways. The positioning competency advances and increases sophisticated and higher value-added services to appendage logistics users' operations (ibid).

Quality Management Factors (QMFs)

Nguyen, Phan, and Matsui (2018), asserted that from the 1960s and onwards, quality management is viewed as companywide quality control which involves almost all organizational functions. Kharub and Sharma (2018), working on a structural model established the relationship between QMPs and firm performance and further integrated the model to investigate the effect of firm performance on competitive positioning. Singh (2010), suggested that improving the quality of service is the only way to enhance organization's competitiveness and that is why all manufacturing and service firms are globally striving to implement some sort of quality management programs According to Jaafreh and Al-abedallat (2012), in contemporary research, various QMFs and Business Excellence Models (BEMs) were proposed by different researchers and national and international bodies to help organizations in improving their service competencies and performance. Many of these factors and models drew substantial attention of management researchers and practitioners working on ways to enhance service competency. Poon and Tong (2011), referring various researchers mentioned that nowadays QMFs are

commonly and extensively implemented and embraced in service industries. Various researchers including Nguyen, Phan and Matsui (2018); Jaafreh, and Al-abedallat (2012); Poon and Tong (2011), cited several quality management frameworks including Australian Business Excellence Framework; Canadian Framework for Business Excellence; Egyptian Quality Award; European Foundation Quality Management Model; Hong Kong Quality Award; Japan Quality Award; Malaysian Business Excellence Framework; Malcolm Baldrige National Quality Award (MBNQA); New Zealand Business Excellence Award; and Singapore Quality Class Business Excellence Framework.

Table 1. Major Quality Management Models and Criteria

Quality Model	Measuring Criteria
Australian Business Excellence Framework	Leadership; Customer and Market Focus; Strategy and Planning; People; Information and Knowledge; Process Management; Improvement; Innovation and Success; Sustainability
Canadian Framework for Bus. Excellence	Leadership; Planning; Customer Focus; People Focus; Process Management; Supplier Focus
Egyptian Quality Award	Leadership; Planning; Customer and market focus; Information and analysis; Human resources; Process management; Business results
European Foundation Quality Management Model	Leadership; Policy and Strategy; People; Partnerships and Resources; Processes; Customer Results; People Results; Society Results and Key Performance Results
Hong Kong HKMA Quality Award	Leadership; Strategic planning; Customer and market focus; Information and analysis; Human resource focus; Process management; Business results
Japan Quality Award	Management vision and leadership; Strategic planning and development; Understanding customer and market and action taken; Information sharing and utilization; Human resource development and learning environment; Process management; Results of enterprise activities; Customer satisfaction
Malaysian Business Excellence Framework	Leadership; Planning; Information; Customer; People; Process; Results.
Malcolm Baldrige National Quality Award	Leadership; Strategic planning; Customer and market focus; Information and analysis; Human resource focus; Process management; Business results
New Zealand Business Excellence Award	Leadership; Strategic planning; Customer and market focus; Measurement, analysis, and knowledge management; Human resource focus; Process management; Business results
Singapore Qlty Class Business Excellence	Leadership; Planning; Information; People; Processes; Customers; Results

Source: Compiled based on a review of various research works

Table 1 shows the major quality criteria of various business frameworks referred by researchers in different quality management studies. It can be observed that almost all business excellence frameworks mentioned above are based on similar management attributes with only little variations. Out of all the above models, MBNQA framework is the oldest and the pioneer in this series. As stated by Poon and Tong (2011), this framework is also the most recognized and frequently used framework and is widely researched by business researchers and practitioners, not only in the US but all over the world.

Malcolm Baldrige National Quality Award (MBNQA) Framework

According to Foster, Johnson, Nelson and Batalden (2007), Malcolm Baldrige award was established in 1987 by the US Government with the purpose and intention of raising awareness of quality management in the US industries. As stated by Jacob, Madu and Tang (2004), this award is adjudged based on six quality management standards which are leadership; strategic planning; customer and market focus; measurement, analysis, and knowledge management; human resource management; and process management. Foster et al. (2007), have given an account of the six criteria used in MBNQA. Table 2 presents a summary of what MBNQA Framework.

Table 2. MBNQA Criteria

Criteria / Practice	What each criterion examines
Leadership	How senior executives guide the organization and how the organization deals with its responsibilities.
Strategic planning	How the organization sets strategic directions and how it determines key action plans
Customer and market focus	How the organization determines requirements and expectations of customers and markets; builds relationships with customers and satisfies and retains customers
Measurement, analysis and knowledge management	The management, effective use, analysis, and improvement of data and information to support key organization processes and the organization's performance management system.
Human resource focus	How the organization enables its workforce to develop its full potential and how the workforce is aligned with the organization's objectives
Process management	How key production/ delivery and support processes are designed, managed and improved

Partially taken from Foster et al. (2007)

Figure 1 below shows the inter-relationship between the six quality management criteria of MBNQA to reach to the desired result of achieving the overall state of quality.

Figure 1. The interrelationship of Six Quality Criteria for MBNQA

Conceptualization and Hypotheses Development

The review of the literature revealed that the adoption of six MBNQA criteria and implementation of the recommended quality management practices help organizations reach a higher level of performance and achieving better service competencies. The conceptualized framework for this research used the same six MBNQA criteria to observe the impact of QMFs on the positioning competency of 3PL service providers in Pakistan, The six quality management factors identified by MBNQA are *Leadership; Strategic Planning; Customer Focus; Measurement, Analysis and Knowledge Management; Human Resource Focus; and Process Management* which are used as independent variables and *Positioning Competency* is taken as dependent variable in this research model. Poon and Tong (2011), in their study of the influence of six quality factors of MBNQA on four business performances on Chinese LSPs, carried out the exploratory factor analysis using principal component analysis and through their respective loading, extracted the six factors into two components; *organizational strength;* and *individual strength*. The organizational strength includes four factors which are *Leadership; Strategic Planning; Customer Focus; and Process Management* while individual strength includes *Measurement, Analysis and Knowledge Management;* and *Human Resource Focus*. This study, following Poon and Tong (2011), also intends to observe the impact of organizational strength and individual strength on positioning competency of 3PL service

providers and validate the previously derived results in the context of Pakistan's logistics industry.

In the first stage, this research intends to observe the direction and extent of association of six quality management factors with positioning competency; then examine the causal impact of organizational strength and individual strength on the positioning competency; and lastly to study the causal impact of each individual quality management factor on the positioning competency of 3PL service providers in Pakistan. Figure 2 shows the final model including all three stages of analysis discussed above. In order to explore the extent and direction of the association between six quality management factors and positioning competency; the causal impact of six quality management factors in two groups and then individually of each factor, four basic hypotheses are formulated which are illustrated in Table 3.

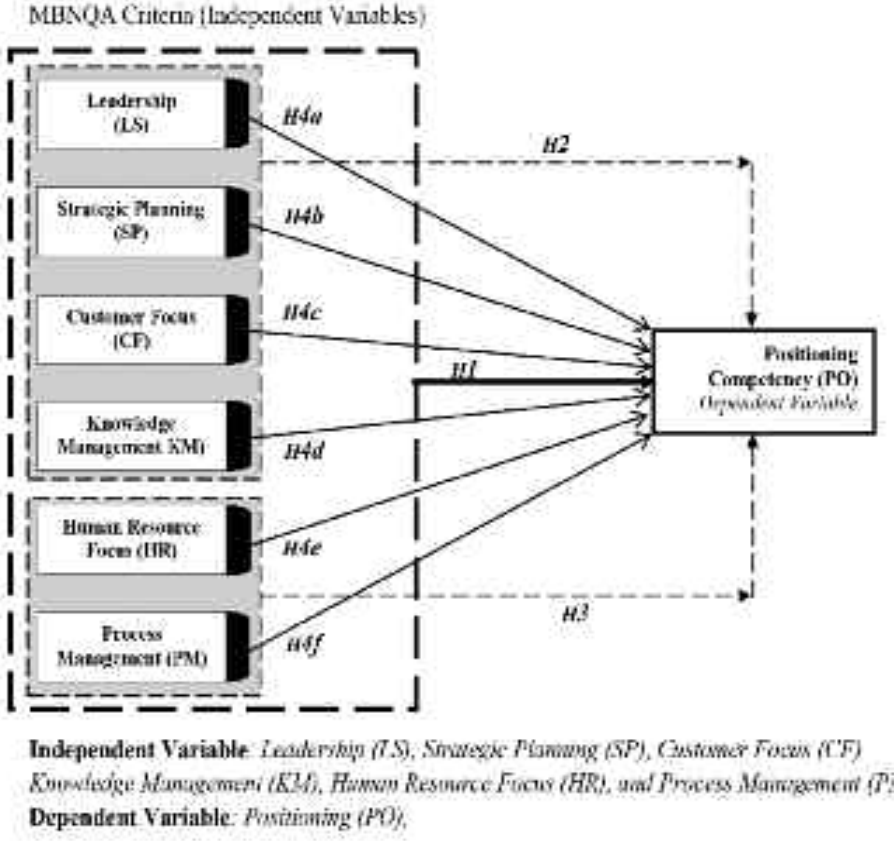

Figure 2. The causal relationship between quality management factors and positioning competency

Table 3. Research Hypotheses

H1:	All six quality management factors have a positive association with Positioning Competency of 3PL service providers in Pakistan.
H2:	Leadership, Strategic Planning, Customer Focus and Process Management collectively as organizational strength have a positive effect on the Positioning Competency of 3PL service providers in Pakistan.
H3:	Measurement, Analysis and Knowledge Management and HR Focus collectively as individual strength have a positive effect on the Positioning Competency of 3PL service providers in Pakistan.
H4a:	Leadership positively affects the Positioning Competency of 3PL service providers in Pakistan.
H4b:	Strategic Planning positively affects the Positioning Competency of 3PL service providers in Pakistan.
H4c:	Customer Focus positively affects the Positioning Competency of 3PL service providers in Pakistan.
H4d:	Knowledge Management positively affects the Positioning Competency of 3PL service providers in Pakistan.
H4e:	Human Resource Focus positively affects the Positioning Competency of 3PL service providers in Pakistan.
H4f:	Process Management positively affects the Positioning Competency of 3PL service providers in Pakistan

Note: The hypothesis H4 is a collective hypothesis for all six MBNQA quality management factors so is further divided into six sub-hypotheses to observe the individual impact of each factor on positioning competency.

RESEARCH METHODOLOGY

This paper is a quantitative cross-sectional study of 3PL service providers in Pakistan which used questionnaire as the data collection tool. All international freight logistics firms in Pakistan that are registered with Pakistan International Freight Forwarders Association (PIFFA) are the population of this study. The current population of freight logistics firms registered with PIFFA is about 640 members. All these businesses were contacted through email and later a help/survey team comprised of university students took appointments and physically visited logistics business offices in the city of Karachi. After all possible efforts, 203 questionnaires were filled spending little more than five months. Out of these 203, only 157 questionnaires were found completely filled in with basic information and were included in the analysis. The initial response rate was a little more than 34% and the actual number of questionnaires included in the survey comes out to be approximately 24% of the total population. Poon and Tong (2011), in a similar study of LSPs in Southern China, referring to other studies, mentioned that a response rate of 12% is satisfactory for such research.

Questionnaire

The questionnaire was mainly comprised of two sections. The first section was to collect demographic information about respondents and the responding companies. It included the respondents' designation and experience, company age, head office and branch offices, assets owned, the extent of computerization, major routes and transport modes and most importantly major services offered, and major industries served. The second part of the questionnaire was comprised of 47 multi-item psychometric response questions with a likert rating scale from 1 (Strongly Disagree) to 7 (Strongly Agree) to measure the six constructs of quality management factors and the positioning competency of 3PL service providers in Pakistan. Most of the factors and question items were taken from the available inventory of a similar study carried out by Poon and Tong (2011).

Data Analysis Techniques

According to Poon and Tong (2011), if all the measures and scales are taken from already validated similar research in published journals, then it can be assumed that even the content validity should be reasonably high. The internal consistency and reliability were tested by computing Cronbach's Alpha (α) for each scale. According to Nunnally and Bernstein (1994) and further cited by other studies that the alpha coefficients of 0.70 and above are required for established scales as used in this research. Pearson correlation coefficient was used to test the direction and relationship of all six quality management factors with the positioning competency. According to the conceptual model shown in Figure 2, a regression analysis was also carried out first between two groups of factors named *organizational strength* and *individual strength* taken as independent variables and *positioning competency* as the dependent variable. Later, another separate multiple regression was carried taking all six MBNQA factors as independent variables and positioning competency as the dependent variable to find out the impact of each quality management factors on the positioning competency of 3PL service providers in Pakistan.

RESULTS AND DISCUSSION

Descriptive Statistics

As mentioned above there were 157 complete questionnaires included in the data analysis, from which the demographic statistics are extracted and shown in Table 4. From this table, we can see that most of the respondents belong to senior or middle management cadre and are involved in the strategic or tactical level of activities in their organizations.

Also, from this table, it is evident that more than 50% of the respondents are experienced in their respective professions and have an experience of more than 10 years. Only 15% of the respondents have less than 5 years of experience. Also, 73% of our sample organizations are in business for more than 10 years which shows that our sample is mostly comprised of established organizations.

In terms of staff size, 40% of our sample had a staff size of more than 50 heads and in all, around 83% of organization employs a staff of more than 11 persons. For a logistics industry which is not very old and established, this is considered as a good staff size.

Table 4. Demographic Statistics of the Sample

Responses, Attribute and Frequency		
Population and Sample	**Sample and Response**	**Percentage**
	Total PIFFA Membership	640
	Total Responses	2013
	%age to Total Members	31.70%
	Valid Responses	157
	%age to Total Response	77.30%
Informants Designation	**Cadre**	**Percentage**
	Strategic Managers	15%
	Tactical Managers	50%
	Operation Managers	36%
Respondents Experience	**Years of Experience**	**Percentage**
	1 to 5	15%
	6 to 10	33%
	10 to 20	36%
	21 to 30	13%
	> 30	3%
Age and Size of Responding Company		
Company Age	**Age Group in Years**	**Percentage**
	1 to 5	7%
	6 to 10	20%
	10 to 20	30%
	21 to 30	23%
	> 30	20%
Staff Size	**Number of Permanent Staff**	**Percentage**
	1 to 5	6%
	6 to 10	11%
	11 to 25	23%
	26 to 50	20%
	> 50	40%

Figure 3 shows that almost all 3PL service providers do provide more

than one service simultaneously but international freight forwarding (80%) and domestic transportation (66%) are the two most provided services by 3PLs in Pakistan. Warehousing (59%), and Port clearance (56%), being the two complementary services of international trade and freight forwarding come after that.

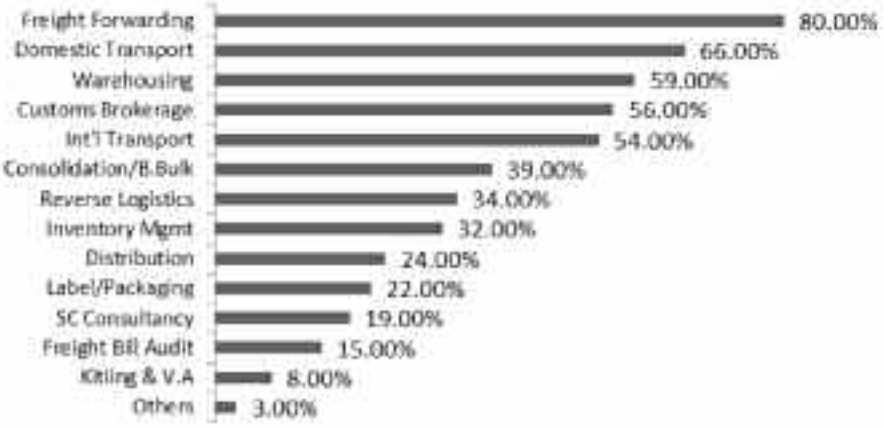

Figure 3. Major services offered by 3PL Service Providers

Use of Information Communication Technology (ICT) is an important enabler of positioning competency. Figure 4 shows the extent of computerization in Pakistan's 3PL industry.

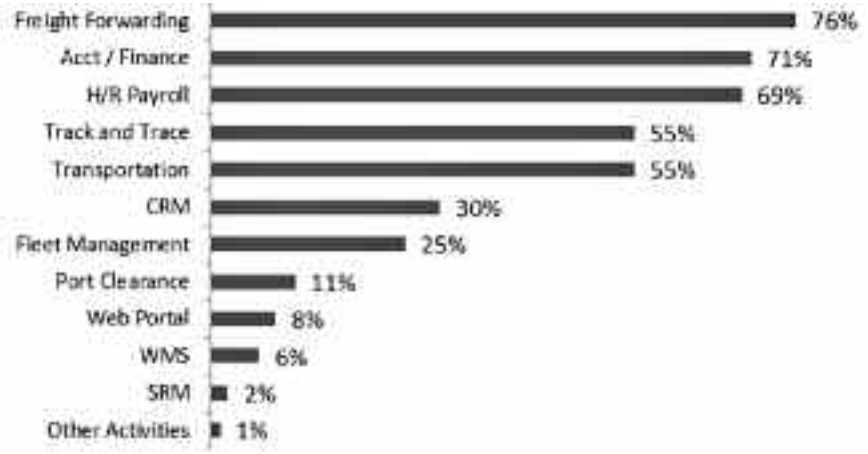

Figure 4. Extent of computerization in LSPs in Pakistan

Furthermore, in order to satisfy the assumptions for the appropriateness of data, few tests recommended by Hair et al. (2006), were carried out.

Table 5. Kaiser-Meyer-Olkin (KMO) Test

KMO and Bartlett's Test for Quality Management Factors Model		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.934
Bartlett's Test of Sphericity	Approx. Chi-Square	4115.406
	Df	630
	Sig.	0.000
KMO and Bartlett's Test for Positioning Competency		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.918
Bartlett's Test of Sphericity	Approx. Chi-Square	2388.748
	Df	253
	Sig.	0.000

Kaiser-Meyer-Olkin measure (KMO) was carried out on the data. As per Neuman and Dickinson (2003) and Hair et al. (2006), any KMO value to measure sampling adequacy higher than 0.7 is considered good. It is a test of the amount of variance within the data. As shown in Table 5 the KMO value of 0.934 and 0.918 are considered particularly good adequacy measures. Similarly, the Bartlett's Sphericity test show that the approximate Chi-Square is highly significant for the model.

Hypotheses Testing

The following discussion is about the statistical testing of hypotheses formulated to achieve the objectives of this research. The statistical analysis results about each hypothesis are given and discussed below.

Hypothesis 1: This hypothesis suggests the direction and extent of association of the six quality management factors with the positioning competency. The results show that all six factors have highly significant and positive relationship with positioning competency (*Leadership*: r = 0.588, p-value 0.000; *Strategic Planning*: r = 0.674, p-value 0.000; *Customer Focus*: r = 0.720, p-value 0.000; *Process Management*: r = 0.652, p-value 0.000; *Measurement, Analysis and Knowledge Management*: r = 0.585, p-value 0.000; *H. R. Focus*: r = 0.737, p-value 0.000). Based on these statistics we can say that hypothesis H1 is fully accepted.

Our finding about the strong relationship between quality management factors and service competency is in line with the findings of previous research carried out by Kersten and Koch (2010), wherein they found a positive association of quality management with quality of logistics service performance and competencies. Poon and Tong (2011), especially in a similar study confirmed the positive and significant association of quality management with various perspectives of logistics service practitioners.

Hypothesis 2 and 3: To test the Hypotheses 2 and 3 a regression analysis was conducted to assess the impact or influence of *Organizational Strength* as a bundle of various quality factors (*Leadership, Strategic Planning, Customer Focus and Process Management*) and *individual Strength* as a total of two quality factors (*Measurement, Analysis and Knowledge Management* and *Human Resource Focus*) on the *Positioning Competency*. In the regression analysis, *Organizational Strength* and *Individual Strength* were entered as independent variables and *Positioning Competency* was taken as the depended variable. Firstly, it was made sure that there is no multicollinearity issue with the data. According to Hair et al. (2006), the value tolerance and variance inflation factor (VIF) values are a test to check that variability between two independent variables is not explained by each other. Hair et al. (2006), further says that there would be a severe multicollinearity between independent variables if the tolerance level is less than 0.10 or the value of VIF is more than 10. In our analysis, the tolerance and VIF values for both *Organizational Strength* (0.261 and 3.832 respectively), and *Individual Strength* (0.261 and 3.832 respectively), are within the recommended range.

Previous research by Poon and Tong (2011), studied all six quality factors individually and the organizational behavior and individual behavior were not taken as collective variables. This research went a step ahead and along with individual factors, also studied the impact of these two collective categories of quality factors. This model, as a whole, was found statistically highly significant $F_{(3, 154)} = 107.78$; $p < .000$ and explained 58.30% of the variance in the positioning competency. Both independent variables the *Organizational Strength* ($t = 3.411$, $\beta = 0.347$, $p < .001$) and *Individual Strength* ($t = 4.362$, $\beta = 0.444$, $p < .000$) made a statistically significant and unique contribution to the model confirming hypotheses H2 and H3. In general, we can say that the above results are conformance with the findings of Sridevi and Kumar (2015), that management quality is the key to service competency.

Hypothesis 4: This Hypothesis was basically comprised of six sub-hypotheses to test and explain the individual impact or influence of each of six quality factors (*Leadership, Strategic Planning, Customer Focus, Process Management, Measurement, Analysis and Knowledge Management, and Human Resource Focus*) on the *Positioning Competency*. Prior to running the regression between quality management factors (as independent variables) and Positioning Competency (as the dependent variable), the multicollinearity of all six factors was checked. All six quality management factors having tolerance value between 0.249 and 0.447 and VIF values between 2.237 and 4.018 were free from multicollinearity.

Regarding the individual impact of six quality factors on *positioning competency* we found that only *Customer Focus* ($t = 4.373, \beta = 0.350, p < .000$) and *HR Focus* ($t = 4.135, \beta = 0.411, p < .000$) made a statistically highly significant, unique, and positive contribution to the model which means these variables are significant predictors of *positioning competency*. Examining the standardized regression coefficients of other quality management factors, we found that remaining four factors except for *Process Management* have a positive impact on *positioning competency* but those are not statistically significant. *Process Management* in its individual capacity is showing a negative impact. The results of this research are similar to the results derived by Ding, Kam, and Lalwani (2011), where they found that the training and development emerged as a strong predictor of positioning competency. Similarly, studying the customer perspective of the performance of LSPs in Southern China Poon and Tong (2011), found that the HR focus significantly impacts the customer performance of LSPs. Here in our research, these both inter-related variables emerged as strong predictors of positioning competency.

Table 6. Test Statistics

Hypo-thesis	Model and Variables	Unstandardized Coefficients	Standardized Coefficients	t-value	Sig.	Mean Score	Std. Deviation
		B	Beta (β)				
H2 and H3	(Constant)	1.018		2.895	.004		
	Individual Strength	.340	.347	3.411	.001		
	Organizational Strength	.514	.444	4.362	.000		
H4	(Constant)	.942		2.427	.016		
	Leadership	.003	.003	.043	.966	5.7645	1.02355
	Strategic Planning	.135	.126	1.286	.200	5.7463	.84976
	Customer Focus	.407	.350	4.373	.000	5.9575	.78765
	Knowledge Management	.050	.049	.655	.513	5.7641	.89312
	H.R. Management	.329	.411	4.135	.000	5.5476	1.14237
	Process Management	-.065	-.067	-.667	.506	5.6269	.93543

Table 6 shows a summary of all unstandardized B values and standardized β coefficients along with their significance for H2, H3 and H4 analyses. Whereas, Table 7 shows the Mean and Standard Deviation of all scales used as predictors and their mutual correlations. In the next section, the reasons and implications of these impacts and these significances are discussed in detail.

DISCUSSION AND CONCLUSION

This research shows that all six quality management factors have a

strong, significant, positive association with the positioning competency of 3PL service providers in Pakistan. The results also show that both organizational Strength (*Leadership, Strategic Planning, Customer Focus and Process Management*), and individual Strength (*Measurement, Analysis and Knowledge Management and Human Resource Focus*), as collective indicators, have a positive significant effect on *positioning competency*. In respect to individual impacts of six quality management factors on positioning competency, the results show that only *Customer Focus* and *HR Management* have a highly significant positive impact. Our results about Organizational and Individual strength are in conformance with the results derived by Poon and Tong (2011), in their study on the influence of these variables on the performance of 3PL service providers in Southern China.

When it comes to the individual impact of six quality management factors, the two key factors: *Customer Focus* and *Human Resource Focus* illustrate a highly significant impact on positioning competency of 3PL service providers. Especially in reference to positioning competency which is the act of designing and establishing the company's offer and image and communicating the key distinctive benefits of the product or service in the market. Both these constructs are particularly human-attitude based and are mutually supportive to elevate the positioning competency of LSPs. As the customers are the ones whom the distinctive benefits are offered by LSPs and the human resource of a 3PL is the main source working for those distinctive benefits to be offered and delivered to customers.

In our analysis *Customer Focus* ($t = 4.373$, $\beta = 0.350$, $p < .000$) showed a strong positive impact on positioning competency. This was an expected result and many studies confirmed that organizations focusing on customers and market are in a better position than other competing organizations. Thus, our findings are in line with Badri et al. (2006), where a significant effect of market focus on organization's service competency and performance was confirmed. Our result is also in line with the statement of Sawaluddin, Surachman, Djumahi and Mintarti Rahayu (2013), asserting that the innovative customer-focused practices co-exist with exemplary competency and performance.

Our results also demonstrated that *Human Resource Focus* ($t = 4.135$, $\beta = 0.411$, $p < .000$) along with *Customer Focus* is one of the most significant constructs for improving positioning competency, however, many 3PL providers in Pakistan complained about the availability of qualified logistics professionals (PSDF, 2015). The 3PL service providers

must provide better training to their staff and make all efforts to hire qualified professionals to improve their positioning competency. The service quality is the main source for customer satisfaction which can effectively be achieved by improving human resource quality through better training to employees (Qadeer, 2014; Hafeez & Muhammad, 2012).

The findings of the study demonstrate that the impact of four quality factors (*Leadership, Strategic Planning, Process Management, Measurement, Analysis and Knowledge Management*) was not significant on the *Positioning Competency* of 3PL service providers. Regarding *Leadership*, Sabella, Kashou, and Omran (2014), are of the view that ultimately it is the obligation of business management to establish the direction of strategy and formulate an operational system for better performance. In this study, leadership did not appear to be an effective factor and probably that is either because of real lack of motivational and professional leadership or as the leaders' role is not properly appraised and appreciated in Pakistan's 3PL industry. As far as *Measurement, Analysis and Knowledge Management* is concerned, the results of this research validate the findings of Poon and Tong (2011), asserting a non-significant impact of work and performance measurement system on 3PL service providers. It may be due to the fact that many 3PL service providers in Pakistan, do not have proper work and performance measurement system. However, the results do not deny the importance of this factor, rather it can be inferred that their impact was found insignificant in the context of Pakistan due to the absence of such practices in the logistics industry in the country.

Concluding the discussion, we postulate that the 3PL service providers need to concentrate on all quality management practices to improve their overall service competencies but focus on customers and human resources is of prime importance to improve their positioning competency. This research has several managerial implications and operational applications for researchers and 3PL service providers, as it indicates the lack of applicable practices for improvement in the quality of leadership and internal processes. Through findings of this research, logistics practitioners and managers can get a better idea how quality management practices can help the positioning competency of 3PL service providers which ultimately helps them in offering better and effective services to their clients. This researcher has some reservations about the impact of sample size and the knowledge of respondents about their own business, on the results of this study. If such research is carried out by any government agency surveying all LSPs in Pakistan, that can provide better applicable results which might help the whole industry effectively.

REFERENCES

Al-Qahtani, N. D., Alshehri, S. S. A., & Aziz, A. A. (2015). The impact of Total Quality Management on organizational performance. *European Journal of Business and Management. 7*(36), 119-127.

Badri, M. A., Abdulla, M., Kamali, M. A., & Dodeen, H. (2006). Identifying potential biasing variables in student evaluation of teaching in a newly accredited business program in the UAE. *International Journal of Educational Management*, *20*(1), 43-59.

Barney, J. B., & Clark, D. N. (2007). *Resource-based theory: Creating and sustaining competitive advantage*. London: Oxford University Press.

Bititci, U. S. (2016). *Managing business performance: The Science and the Art*. John Wiley & Sons.

Campion, M. A., Fink, A. A., Ruggeberg, B. J., Carr, L., Phillips, G. M., & Odman, R. B. (2011). Doing Competencies Well: Best Practices in Competency Modeling. *Personnel Psychology, 64*(1), 225-262.

Chowdhury, P. P. (2013). Key strategies and issues of positioning: A review of past studies. *American Academic & Scholarly Research Journal*, *5*(1), 55.

Ding, M. J. (2011). *Factors Affecting Logistics Service Competencies: An Empirical Study of Logistics Service Providers in China* (Doctoral dissertation, RMIT University).

Ding, M. J., Kam, B. H., & Lalwani, C. S. (2012). Operational routines and supply chain competencies of Chinese logistics service providers. *The International Journal of Logistics Management*, *23*(3), 383-407.

Foster, T. C., Johnson, J. K., Nelson, E. C., & Batalden, P. B. (2007). Using a Malcolm Baldrige framework to understand high-performing clinical microsystems. *BMJ Quality & Safety*, *16*(5), 334-341.

Goldsby, T. J., & Stank, T. P. (2000). World class logistics performance and environmentally responsible logistics practices. *Journal of Business Logistics*, *21*(2), 187- 208.

Hafeez, S., & Muhammad, B. (2012). The Impact of Service Quality,

Customer Satisfaction and Loyalty Programs on Customer's Loyalty: Evidence from Banking Sector of Pakistan. *International Journal of Business and Social Science*, *3*(16), 200-209.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis*. *(*6th ed.). Upper Saddle River, NJ: Pearson Education International.

Hertz, S., & Alfredsson, M. (2003). Strategic Development of Third-Party Logistics Providers. *Industrial Marketing Management*, *32*(2), 139-149.

Jaafreh, A. B., & Al-abedallat, A. Z. (2012). The effect of quality management practices on organizational performance in Jordan: An empirical study. *International Journal of Financial Research*, *4*(1), 93-109.

Jacob, R., Madu, C. N., & Tang, C. (2004). An empirical assessment of the financial performance of Malcolm Baldrige Award winners. *International Journal of Quality & Reliability Management*, *21*(8), 897-914.

Janiszewska, K., & Insch, A. (2012). The strategic importance of brand positioning in the place brand concept: elements, structure and application capabilities. *Journal of International Studies*, *5*(1), 9-19.

Joong-Kun-Cho, J., Ozment, J., & Sink, H. (2008). Logistics capability, logistics outsourcing and firm performance in an e-commerce market. *International Journal of Physical Distribution & Logistics Management*, *38*(5), 336-359.

Kalinzi, C. (2016). Outsourcing (Logistics) Services and Supply Chain Efficiency-A Critical Review of Outsourcing Function in Mukwano Group of Companies. *Journal of Outsourcing & Organizational Information Management, 16*(16), 1-22. Doi: 10.5171/2016.937323

Karia, N., Wong, C. Y., & Asaari, M. H. A. H. (2012). Typology of resources and capabilities for firms' performance. *Procedia-Social and Behavioral Sciences*, *65(2012)*, 711-716.

Kotler, P., & Keller, K.L. (2013). *Marketing Management*. Pearson education.

Kersten, W., & Koch, J. (2010). The effect of quality management on the service quality and business success of logistics service providers. *International Journal of Quality & Reliability Management*, *27*(2), 185-200.

Kharub, M., & Sharma, R. (2018). An integrated structural model of QMPs, QMS and firm's performance for competitive positioning in MSMEs. *Total Quality Management & Business Excellence*, 1-30. https://doi.org/10.1108/JMTM-06-2017-0116

Lai, K. H., Ngai, E. W. T., & Cheng, T. C. E. (2004). An empirical study of supply chain performance in transport logistics. *International Journal of Production Economics*, *87*(3), 321-331.

Li, X. (2014). Operations management of logistics and supply chain: Issues and directions. *Discrete Dynamics in Nature and Society*, *2014*, 1-7. http://dx.doi.org/10.1155/2014/701938

Maoto, L. W. (2017). Strategic Positioning and Total Quality Management Strategies and their Impact on Performance in three to five-star Hotels Headquartered in Nairobi (Doctoral dissertation, School of Business, University of Nairobi), Nairobi, Kenya.

Markus, L., Thomas, H. C., & Allpress, K. (2005). Confounded by Competencies? An Evaluation of the Evolution and Use of Competency Models. *New Zealand Journal of Psychology*, *34*(2), 117-126.

MSUGLRT (Michigan State University. Global Logistics Research Team, & Council of Logistics Management, US). (1995). *World class logistics: the challenge of managing continuous change*. Council of Logistics Management.

Neuman, S. B., & Dickinson, D. K. (Eds.). (2003). *Handbook of early literacy research* (Vol. 1). Guilford Press.

Nguyen, M. H., Phan, A. C., & Matsui, Y. (2018). Contribution of Quality Management Practices to Sustainability Performance of Vietnamese Firms. *Sustainability*, *10*(2), 375.

Nunnally, J. C., & Bernstein, I. H. (1994). Psychological theory. (3rd ed). *New York, NY: MacGraw-Hill*.

Palpacuer, F. (2000). Competence-Based Strategies and Global Production Networks a Discussion of Current Changes and Their Implications for Employment. *Competition & Change*, *4*(4), 353-400.

Poon, W. K., & Tong, C. (2011). Major factors influencing the performance of

local private third-party logistics service providers in Southern China. *Journal of Management Research*, *4*(1), 1-30.

Punjab Skill Development Fund (PSDF). (2015). Logistics Sector Skills Needs Assessment Workshop Report, *Government of Pakistan*.

Qadeer, S. (2014). Service Quality & Customer Satisfaction: A case study in Banking Sector. Unpublished dissertation. Gavle, Sweden: University of Gavle.

Sabella, A., Kashou, R., & Omran, O. (2014). Quality management practices and their relationship to organizational performance. *International Journal of Operations and Production Management*, *34*(12), 1487-1505.

Sawaluddin, A., Surachman, R., Djumahi, M., & Mintarti Rahayu, D. (2013). Quality management practices of Malcolm Baldrige National Quality Award (MBNQA) studies at college in Southeast Sulawesi, Indonesia. *Int J Bus Manag Invent*, *2*(11), 11-25.

Shang, K. C., & Marlow, P. B. (2007). Logistics capability and performance in Taiwan's major manufacturing firms. *Transportation Research Part E: Logistics and Transportation Review*, *41*(3), 217-234.

Singh, R. K. (2010). Quality Management and Performance: A Review. *International Journal of Advanced Research in Management (IJARM)*, *1*(1), 1-19.

Sridevi, J., & Kumar, K. S. (2015). Role of Third-Party Logistics Providers to Increase Customer Satisfaction in Supply Chain. *International Journal of Applied Engineering Research*. *10*(68), 830-832.

Sum, C. C., & Teo, C. B. (1999). Strategic posture of logistics service providers in Singapore. *International Journal of Physical Distribution & Logistics Management*, *29*(9), 588-605.

Watts, T., & McNair-Connolly, C.J. (2012). New performance measurement and management control systems. *Journal of Applied Accounting Research*, *13*(3), 226-241.

Wong, C. Y., & Karia, N. (2010). Explaining the competitive advantage of logistics service providers: a resource-based view approach.

International Journal of Production Economics, *128*(1), 51-67.

Yeung, J. H. Y., Selen, W., Sum, C. C., & Huo, B. (2006). Linking financial performance to strategic orientation and operational priorities: an empirical study of third-party logistics providers. *International Journal of Physical Distribution & Logistics Management*, *36*(3), 210-230.

Yusoff, W. F. W., & Armstrong, A. (2012). What Competencies Should Directors Possess? Malaysia Perspective. *International Journal of Business and Management*, *7*(2), 142-149.

Zacharia, Z. G., Sanders, N. R., & Nix, N. W. (2011). The emerging role of the third-party logistics provider (3PL) as an orchestrator. *Journal of Business Logistics*, *32*(1), 40-54.

Zhang, H., and Okoroafo, S. C. (2015). Third-party logistics (3PL) and supply chain performance in the Chinese market: a conceptual framework. *Engineering Management Research*, *4*(1), 38-47.

Zhao, X., Flynn, B. B., & Roth, A. V. (2007). Decision sciences research in China: current status, opportunities, and propositions for research in supply chain management, logistics, and quality management. *Decision Sciences*, *38*(1), 39-80.