EXPLORING VIETNAMESE LOGISTICS SERVICE QUALITY IN THE RUN-UP TO AEC 2015

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Introduction

The logistics and supply chain management domain faces a number of ongoing trends and resultant challenges including costs, the globalisation of supply and markets, time compression, product complexity and shrinking product life cycles, quality of performance and service, a shortage of logistics and supply chain management talent, their impact on the natural environment, and risk and disruption and supply chain security (Grant, 2014). This is particularly true in and important for developing economies such as Vietnam.

The Vietnamese economy, measured by GDP, has grown from about US$ 33.6 billion in 2000[1] to over US$ 184.2 billion in 2014[2]. However, despite this significant progress Vietnam only broke into the top 50 in the 2014 World Bank Logistics Performance Index or LPI (Arvis *et al.*, 2014). Issues affecting Vietnamese logistics include high costs (logistics costs represent 25% of Vietnam's GDP), lack of good infrastructure, poor customs clearance procedures, poor connections with goods areas despite significant spending from the government, lack of a proper legal framework and regulations that match current realities, and logistics service providers (LSPs) who lack skills, networks and capital (Blancas *et al.,* 2014; Viet Nam News, 2014).

However, these high-level or macro perspectives do not deeply consider perspectives from key logistics-specific 'actors' such as LSPs, manufacturers and retailers, or external stakeholders such as end-customers or consumers, non-profit associations and Vietnamese public authorities. Hence, we argue that an in-depth investigation of such micro perspectives is warranted to consider not only whether these barriers are the only ones inhibiting Vietnamese logistics development but also what drivers or key success factors might enhance Vietnamese logistics.

This paper reports on an in-progress research study of this phenomenon and is important to provide deeper insights as Vietnam prepares to join other SE Asian countries in implementing the ASEAN Economic Community (AEC) initiative at the end of 2015. The study's objective is to enhance understanding about exogenous and endogenous issues in Vietnamese logistics from the individual stakeholder or firm's point of view in particular, and about logistics issues generally in developing nations. The study has been designed to do this by addressing current gaps regarding state-of-the-art Vietnamese logistics, as well as firm capabilities and readiness to become part of a wider regional logistics network stemming from AEC 2015.

The proposed outputs from this study should also identify the most important factors that are barriers to, or drivers of, logistics development for firms in Vietnam, as well as overarching latent constructs. Further, the study should provide guidance for domestic firms concerned with logistics, i.e. LSPs, manufacturers and retailers, and well as other stakeholders including customers, Vietnamese public authorities and foreign firms operating in Vietnam.

Theoretical Background

Logistics and supply chain management (SCM) permeate almost all aspects of our daily lives and without them we would not have many of the goods, products and services that we take for granted in our normal existence. Logistics activities also have a major economic impact on countries and their societies and hence the cost of logistics and SCM are important criteria for both firms and governments (Grant, 2012).

Logistics costs accounted for 8.2% of gross domestic product (GDP) in the United States in 2013, or about $1.39 trillion (Wilson, 2014). In Europe, they accounted for 7.2% of GDP across the EU 27 countries or about €850 billion in 2008 (A.T. Kearney and the European Logistics Association, 2009).

[1] Source: http://data.worldbank.org/indicator/NY.GDP.MKTP.CD/countries/VN?page=2&display=default
[2] Source: http://data.worldbank.org/country/vietnam

Asian logistics costs, excluding China, Japan and India, accounted for about 17% of GDP (Wilson, 2014), while in Vietnam they represented US $55 billion of GDP in 2010 at 25% (Blancas *et al.,* 2014; Viet Nam News, 2014).

Banomyong *et al.* (2014) explored some issues related to firms' logistics cost and performance in Vietnam and found that respondents may have a lack of understanding related to logistics concepts. Service level capability was the most important issue with lower levels of performance when compared with neighbouring countries. Banomyong *et al.* (2014) based their survey on a similar one conducted in Thailand by Banomyong and Supatn (2011). The latter survey was informed by and made use of measure developed by Grant (2004) and Grant *et al.* (2006) regarding logistics performance, service and satisfaction. Reliability was a key variable in the latter work and Banomyong *et al.* (2014) found an inverse relationship between logistics service quality levels and logistics costs, i.e. logistics costs were high but service performance was low.

The general concept of logistics service quality (LSQ) relates to the 'seven rights': the right quantity of the right product at the right place at the right time in the right condition at the right price and with the right information (Mangan *et al.,* 2011). Two distinctive classifications from the literature have emerged regarding the LSQ concept. The first distinguishes among three typologies: outcome; process; and structure/potential/functional. This conceptualization is close to the traditional construct of company performance. The second develops the LSQ concept's focus either oriented towards customers and their evaluations or perceptions, i.e. a 'subjective quality' towards the service provider.

The overarching framework for customer satisfaction is the expectancy-disconfirmation paradigm where customers develop expectations prior to a product or service experience, and then either confirm or disconfirm those expectations afterwards (Grant, 2004). Negative disconfirmation usually refers to dissatisfaction while a positive disconfirmation refers to on over-provision of product or service performance. Both have important implications for producers or other suppliers providing the product or service when designing their service strategies.

But, although researchers have examined the influence of general service quality on consumer satisfaction and loyalty (e.g. Parasuraman *et al.,* 1985) there has been less research conducted on LSQ. What research has been conducted over the past forty years has found that LSQ, customer satisfaction and subsequent loyalty are influenced by a wide variety of factors or variables occurring at the different moments within the service experience (e.g. La Londe and Zinszer, 1976; Sharma *et al.,* 1995; Mentzer *et al.,* 2001; Grant, 2004). The issue then is to determine which factors are most important to customers and service providers in the context under consideration – Vietnam in this study's case.

Perceptions of important factors are correlated with perceptions the logistics capability of a country. For example, ineffective customs procedures and slow-acting border crossings will underlie firms' and individual perceptions about a country's customs performance. Hence, using the expectancy-disconfirmation paradigm as part of an LSQ investigation can confirm the strength of these perceptions and provide guidance for logistics-related firms and other stakeholders to meet expectations and thus shape perceptions (Parasuraman *et al.,* 1985; Grant, 2004).

One way of measuring the logistics capability of any country is the World Bank's Logistics Performance Index (LPI), which is a weighted average of individual country scores on six dimensions: the efficiency of clearance processes, quality of trade and transport related infrastructure, the ease of arranging competitively priced shipments, the competence and quality of logistics services, the ability to track and trace consignments and the timeliness of shipments in reaching destination within a scheduled or expected delivery time (Arvis et al., 2014). The maximum score is 5.0 and the country at the top of the 2014 Index was Germany with a score of 4.12. Vietnam was ranked 48th with a score of 3.15, an improvement from 53rd place in 2012.

The final step in such an investigation is for individual firms to assess their capabilities relative to what LSQ factors are important to them and their perceptions of how well those factors are provided in their external environment will enable firms to benchmark themselves firstly in order to determine if improvements are required (Kotzab *et al.,* 2011; Grant, 2012).

The foregoing issues have informed our study in the target country of Vietnam. Its lagging logistics performance relative to its rapid development and economic growth of this country suggests it is important to deeply investigate these issues and also very timely given the development of AEC 2015 and its members' intentions to modernise and update aspects of their respective economies and standards of living.

Methodology

This study is undertaking a fresh and new approach to the phenomena of interest, LSQ, and is exploratory given a lack of substantive literature on this topic in Vietnam. Accordingly, and to ensure construct, internal and external validity, a two-stage research process with a multi-method approach will be undertaken using Churchill's (1979) two-stage framework for the development and validation of items and constructs in marketing. Dunn *et al.,* (1994) subsequently adopted this framework for logistics and thus it has been proven robust in both disciplines.

In the first stage the domain of the important variables of interest must be specified and confirmed (Churchill, 1979; Dunn *et al.,* 1994). In the second stage, the relevant variables generated in the first stage are tested and purified via major empirical and quantitative research. For this paper we report on the first stage study and will discuss the second stage under conclusions as part of our ongoing work.

We set out the domain of first stage important variables by generating a set of variables from the literature and then conducting exploratory qualitative research to confirm them. The fourteen factors investigated contained eight factors or variables derived from the series of studies used as antecedents in Banomyong *et al.* (2014) and the six factors used in determining the LPI (Arvis *et al.,* .2014), and are listed in Table 1 with the findings

The qualitative study for this stage comprised an exploratory survey distributed to Vietnamese logistics 'actors' and external stakeholders to identify the variables of importance to them. This stage was undertaken in June-August 2015. The survey contained usual demographic questions and had three sections for logistics 'actors' but only two sections for external stakeholders. The first two sections used a five point Likert scale asked respondents to rate the importance of LSQ factors from very unimportant to very important and of their perceptions on how these factors are being addressed in Vietnam from very poorly to very well, e.g. the ease of arranging shipments.

The third section for the logistics 'actors' only asked respondents to rate how capable their firm is relative to twelve of the total set of fourteen factors that are endogenous, i.e. within their control. For example, how well can they monitor and control logistics costs. Data analysis consisted of descriptive statistics involving data frequencies, means and standard deviations have been performed on the data.

Findings

There were 24 logistics 'actors' and 6 external stakeholders responding for a total response set of 30 respondents. The latter group comprised two Vietnamese government employees and three academic, who each had around 25 years of experience, and one business support officer who has four years experience.

The 24 actor respondents represented 13 privately-owned firms, 3 Vietnamese state-owned firms, 4 foreign-owned firms, and 4 other types, i.e. joint-stock firms. Eleven firms had 50-249 employees and another nine had more than 250 employees. The remaining four had 10-49 employees. Only fifteen respondents reported their firm's annual turnover – the average was US $56 million, however there was a large disparity among them. The highest amount of turnover was $940 million while the lowest was just $335,000.

Nine logistics 'actor' respondents were import-export companies, seven were production or manufacturing companies, while six were logistics service companies and six classified themselves as other. Respondents could select more than on category but only two did so. The average number of years experience for the responding managers was 18, but ranged from 3 years to 54.

Table 1 shows the mean scores on the 5 point Likert scales used for the three sections. As there were only six external stakeholder respondents their scores were added to the logistics actors. The means

of the two groups were not significantly different except for the importance of the exogenous variables of proper legal framework and appropriate regulation in the first section. The means for the six external stakeholders was 4.17 for each while the combined respective means were 3.47 and 3.70.

Mean scores over 4.00 were recorded for seven factors of importance and there were seven significant score differences between them and how well the fourteen factors are addressed; five of which related to important factors. Those results are shown in bold in Table 1.

Factor Statements	**How important to your firm are these factors? (1=very unimportant, 5=very important)***	**How are these factors addressed in Vietnam? (1=very poorly, 5=very well)***	**Score differences between importance and provision**	**How capable is your firm relative to these factors? (1=very incapable, 5=very capable)****	**Score differences between importance and capability**
Costs	**4.53**	3.13	**1.41**	3.67	0.86
Company infrastructure	3.40	3.10	0.30	3.33	0.07
Efficiency of customs and border clearance	**4.03**	3.20	**0.83**	3.46	0.57
Quality of Vietnamese trade infrastructure	3.47	2.93	0.54	N/A	N/A/
Quality of Vietnamese transport infrastructure	3.44	2.83	0.61	N/A	N/A/
Ability to track and trace shipments	3.53	3.10	0.43	3.63	-0.10
Ease of arranging shipments	**4.00**	3.13	**0.87**	3.67	0.33
Quality of logistics services	**4.00**	3.17	**0.83**	3.71	0.17
Proper legal framework	3.47	3.00	0.47	3.42	0.05
Appropriate regulation	3.70	2.90	**0.80**	3.75	-0.05
Employee skills	**4.10**	3.53	0.57	3.75	0.35
Access to capital	3.73	3.13	0.60	3.63	0.10
Timeliness	**4.33**	3.13	**1.20**	3.75	0.58
Reliability	**4.43**	3.47	**0.96**	3.88	0.54

Table 1: Survey Findings
(*n=30 – logistics actors and stakeholders; **n= – 24 logistics actors)

Conclusions

The seven LSQ variables of costs, efficiency of customs and border clearance, ease of arranging shipments, quality of logistics services, employee skills, timeliness and reliability were found to be the most important to this respondent group and will inform our future work to drill down into detail to validate these variables. Respondents' perceptions of how well these variables are addressed in Vietnam were significantly different for six of them; only employee skills were not significantly different, perhaps indicating that respondents perceive this variable is being addressed fairly well in Vietnam. While appropriate regulation was not part of the seven most important variables, perceptions of how well this variable was addressed was also significantly different, perhaps indicating that respondents perceive more need to be done with regulation to improve logistics activities and perhaps provide a more level playing field.

These exploratory findings have allowed us to better understand perceptions of respondent firms regarding which variables are important and not being well addressed. Four of these seven variables: efficiency of customs and border clearance, ease of arranging shipments, quality of logistics services and timeliness are from the LPI, and thus provide individual firm support underlying Vietnam's performance in the LPI. Initial findings presented in this paper represent the first of their kind on LSQ in Vietnam and is important within the context of AEC 2015. The number of responses is a limitation to this exploratory work however the findings provide a start to continue this line of enquiry more deeply before developing the larger and more penetrating study.

Following completion of this first stage this study will continue with a quantitative survey targeting a wider sample of Vietnamese logistics 'actors' and other external stakeholders to confirm and validate the variables, and make general observations for the population. Such a larger study will analyse data again using descriptive methods but also include exploratory factor analysis (EFA**)** to determine latent constructs and verify the internal consistency of individual variables. Confirmatory factor analysis (CFA) and structural equation modelling (SEM) will also be used to determine the validity, reliability, and relationships among the variables and latent constructs and to provide a parsimonious set of constructs and variables for logistics 'actors' and external stakeholders to consider for future strategy and policy initiatives respectively.

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