

Logistics Industry in ASEAN: Hyper-Competitive Today, Value Added Tomorrow? The Comprehensive Report



A Collaboration Between:



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The manufacturing and logistics industry face challenging times due to the recent global economic catastrophe and the risk of an impending economic downturn. This report, co-authored by The Logistics Institute - Asia Pacific (TLI-AP) and IBM, presents the findings of the study, conducted to understand the business sentiments within the ASEAN region today. The content of this study was sourced mostly via direct face-to-face meetings with senior representation. We wish to acknowledge their contributions and express our appreciation for making time to provide the content for this report. We would also like to express gratitude towards all participants who participated in the web survey.

The study provides many interesting insights but the major elements we noted was the strong emphasis on reducing cost which could be understood in the situation that transpired, and perhaps as a consequence of this, the reduction of environmental sustainability as a priority. With the focus of the study on our region, preliminary feedback has been encouraging and it will be interesting to see what changes transpire with next year's planned report. We trust you will find the report useful and informative and look forward to your participation in the next survey.

Regards,



Dr. Robert de Souza
Executive Director, TLI-Asia Pacific



ASEAN

The Association of Southeast Asian Nations, commonly abbreviated as ASEAN, is a geo-political and economic organization of 10 countries located in Southeast Asia, which was formed on 8 August 1967 by Indonesia, Malaysia, the Philippines, Singapore and Thailand. Since then, membership has expanded to include Brunei, Burma (Myanmar), Cambodia, Laos, and Vietnam. Its aims include the acceleration of economic growth, social progress, cultural development, the protection of the peace and stability of the region, and to provide opportunities for member countries to discuss differences peacefully.

ASEAN spans an area of 4.46 million km² (3% of the total land area of the Earth), with a population of approximately 600 million people (8.8% of the world's population). In 2010, its combined nominal gross domestic product (GDP) was USD 1.8 trillion. If ASEAN were a single country, it would rank as the ninth largest economy in the world and the third largest in Asia in terms of nominal GDP.

Overview of the Logistics Industry in ASEAN

Globalization trends have spurred the growth of logistics services in the ASEAN region. As ASEAN economies are largely export-oriented, the logistics industry plays a vital part in driving trade in the region. A study by the APEC Policy Support Unit found that a 1% improvement in logistics performance and competitiveness could lead to an immediate 3% increase growth in exports [2].

The logistics industry has also been identified as an important sector in the economic integration process in ASEAN and this is demonstrated by the implementation of the ASEAN Roadmap for Logistics Services Integration in 2008. The roadmap aims to accelerate the liberalization of logistics services by 2013 by eradicating tariff and non-tariff barriers to facilitate the flow of goods and eventually make ASEAN a logistics hub in the Asia-Pacific region. It will also help to achieve the goal of establishing the ASEAN Economic Community by 2015. A robust logistics industry also provides the pull factor for companies to do business in and with ASEAN.

Table 1 highlights the logistics performance of the ASEAN nations against selected countries of current topical interest. In essence it compares the logistics maturity on a number of predetermined categories. Amongst the ASEAN economies, Singapore is recognised as having the largest logistics centre in the region with one of the world's busiest ports. Malaysia and Thailand are also ranked high among developing

Global Rank	Country	LPI
1	Germany	4.11
2	Singapore	4.09
8	United Kingdom	3.95
15	United States	3.86
27	China	3.49
29	Malaysia	3.44
35	Thailand	3.29
41	Brazil	3.20
44	Philippines	3.14
47	India	3.12
53	Vietnam	2.96
75	Indonesia	2.76
91	Russia	2.61
118	Lao PDR	2.46
129	Cambodia	2.37
133	Myanmar	2.33

Table 1: Logistics Performance Index (LPI) of ASEAN compared to selected economies (Source: World Bank [1])

countries in the world. Many logistics centres in ASEAN featured amongst the top 50 global logistics centres in the world with Singapore leading with a global ranking of 4 (in 2008), followed by Bangkok (at No. 31), Kuala Lumpur (No. 33), Manila (No. 42), and Jakarta (No. 43) according to a recent study [3].

Summary of ASEAN: Current State and Potential

ASEAN has a strong combination of future growth and economies of scale to support the growth of the logistics industry such as having a huge population of 591 million (in 2009) projected to grow to 650 million by 2020 with a growing middle-class and rising intra-ASEAN trade.

ASEAN is also strategically located at the center of major international sea trade and aviation routes. These are some of the strengths that the logistics industry has in ASEAN. In terms of opportunities, the recovery of world trade after the global financial crisis is providing logistics companies opportunities to increase market share. In addition, free-trade agreements (FTAs) between the ASEAN nations and others in Asia such as Japan and South Korea are fuelling trade in the region and providing logistics companies with new markets in which to expand their services. China's FTA with ASEAN came into effect in January 2010, creating the world's third-largest trade bloc. There are also growth opportunities for the logistics sector in ASEAN countries as the investment-friendly environment to boost services sectors and the foreign direct investments will intensify the growth of the logistics market.



Figure 1: SWOT Analysis of the ASEAN Logistics Industry

Although new opportunities abound, the industry also has its weaknesses and is not immune to external threats especially from new manufacturing regions across the world. It is reported that while manufacturing firms still view Singapore as the top choice for their Asia Pacific regional headquarters, other countries are catching up fast. One of the weaknesses that could hamper the growth of the logistics industry more so in local distribution is the time it will take to improve the infrastructure in countries such as Vietnam and Indonesia. As an example, Vietnam has a total road network of 222,000 km, which is the 20th largest road network in the world but only 19% of it is paved. Recent improvement to the railway infrastructure in Vietnam is an encouraging example.

	Port	Airport	Railway	Road
Cambodia	Poor	Fair	Poor	Poor
Indonesia	Poor	Fair	Good	Fair
Laos	Not applicable	Poor	Not applicable	Fair
Malaysia	Good	Good	Good	Good
Myanmar	Poor	Poor	Poor	Fair
Philippines	Fair	Fair	Poor	Fair
Singapore	Good	Good	Good	Good
Thailand	Good	Good	Good	Good
Vietnam	Fair	Fair	Fair	Fair

Table 2: Logistics Infrastructure of Countries in ASEAN (Source: Business-in-Asia.Com [4])

Research Approach

The credit crunch and subsequent economic catastrophe from later 2008 to 2009 ended the nearly two decade long double digit growth experienced by international seaports around the globe. Low shipping volumes resulted in excess freight capacity which in turn resulted in falling freight rates and lower margins. After a rapid recovery in 2010 when firms largely reached their pre-recession capacity, fears of another global recession brought about by economic weakness in Europe and the US have again resulted in an uncertain and volatile business environment.

To measure the pulse of the current market, we conducted interviews with top management level executives from leading manufacturers from the fast moving consumer goods (FMCG), high-tech and mobile communications sectors, as well as 3PLs to gauge the priorities and challenges faced in the present economy. In addition, a web survey of manufacturers

and third-party logistics service providers (3PLs) based in Singapore and ASEAN, supplanted with offline paper questionnaire, yielded 74 useable responses, which form the basis of the key findings presented in this report in addition to the insights from the interviews. Among the 74 participants, 41 are 3PLs and the rest shippers (manufacturers).

While conducting our analysis, we compared the results between small (1,000 employees or less) and large (more than 1,000 employees) 3PLs and shippers as there are significant differences among them. We also compared results between local companies (defined as firms whose headquarters are based in Singapore) and foreign companies such as European and US firms, but found no significant differences between these two groups of firms. Hence, this report focuses on the findings of small / large and 3PL / shipper for comparison purposes when appropriate.



Business Challenges: The Logistics Industry in ASEAN is Highly Competitive

Aggressive competition was cited as the most significant challenge affecting the businesses of both small and large logistics players as 85.4% respondents view it as having a great extent of impact on their business needs. High fuel cost (78.0%) and meeting customer needs (75.6%) are the next two most significant challenges for 3PLs. Shippers, on the other hand, face the greatest challenge in meeting customer needs (78.8%), followed by creating supply chain visibility (66.7%); while competition is not viewed as a significant issue (50.0%). Thus, logistics players face significantly higher competition than shippers, making it a highly competitive industry in ASEAN. At the other

end of the spectrum, green strategy is one of the least important factors affecting the businesses of both logistics providers and shippers (27.0%).

Zooming into the difference between 3PLs and shippers, besides the competition and fuel cost (only 56.4% of shippers view high fuel cost as a great challenge), high customer expectation is another factor where 3PLs and shippers take a different view. While 73.2% of the 3PLs rate it as a great business challenge, only 40.6% of shippers share the same view. Actually, it is also ranked by 39.0% 3PLs as the factor that has the greatest impact on their businesses. All these differences highlight the high competition pressure faced by 3PLs in ASEAN. They are much more pressurized compared to their customers (shippers).

The most visible difference between small and large firms is in the implementation of green strategies where 34.1% of the large firms rank it as a great challenge but only 16.6% small firms take the same stand. Large firms are more aware of the green challenge while small firms are less concerned.

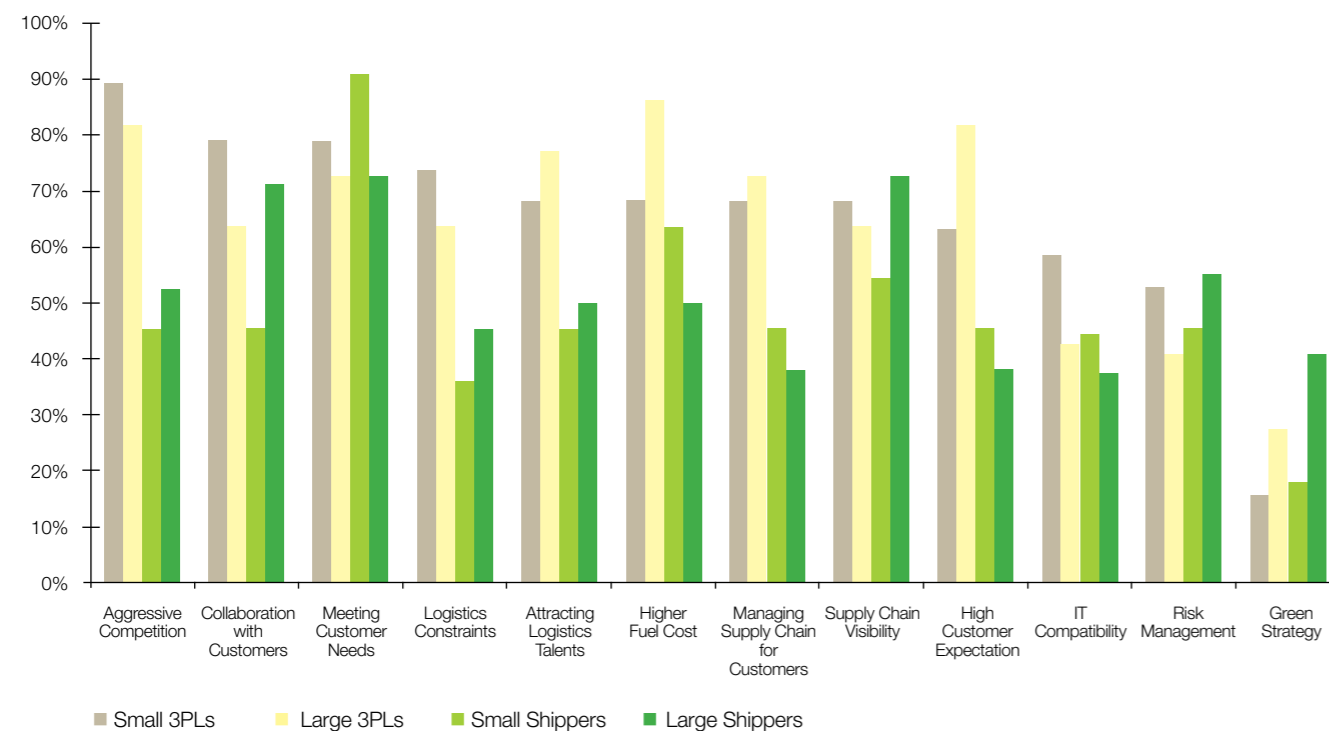


Figure 2: Key Challenges Affecting Business

Current Focus of Supply Chain Management Strategies is on Cost Reduction

Companies are constantly under pressure to minimize cost and to optimize operational efficiency. This was especially so during the economic downturn in 2008 which placed a strong emphasis on near-term cost containment and operational efficiency. Even though the economy has recovered a bit, facing great uncertainty as well as inflation pressure such as the oil price surge, cost reduction is still ranked as the most important area of responsibility for logisticians by 3PLs (97.4%), followed by alignment with customers' business strategies (92.5%) and continuous process improvement (89.7%). For shippers, the top three responsibilities for logisticians are measuring business performance (90.9%), cost reduction (84.8%), and

continuous process improvement (81.8%). Overall, cost reduction is clearly the first responsibility (91.7%), followed by measuring business performance (87.7%) and continuous process improvement (86.1%) (see Figure 3).

This shows that simple supply chain strategies such as measuring business performance and cost reduction takes precedence over long-term solutions such as internal integration (65.3%) and external integration (56.3%) for many companies. However in the long run, 3PLs and shippers must recognize that they cannot afford to focus on near-term priorities only. These issues must be addressed along with a holistic approach to the role of the supply chain in business operations.

Talent development is also ranked among the top five most critically important areas for logisticians (83.6%) and has been regarded as an area in which logisticians have performed the least effectively. Only 16.4% of the firms have been extremely effective in developing their people (see Figure 4). Most of the interviewees have also confirmed that there is a shortage of talent in the logistics industry.



Figure 3: Critically Important Areas for Logisticians



Figure 4: Effectiveness in Company Performance in Critically Important Areas

3PLs and Shippers Have Different Supply Chain Strategies

As a result of the expansion of international trade as well as the globalization strategy of companies, the role and importance of supply chain management have changed from being a supporting business function to being regarded as a strategic industry on its own. Leading organizations are recognizing the need to better orchestrate, synchronize and control their end-to-end supply chain management processes.

The supply chain practices of 3PLs differ from shippers, their customers. 3PLs are focusing their strategies on serving their customers better such as upgrading

their IT systems (widely adopted by 50% 3PLs) and adopting 'real-time' information transparency (52.5%). In order to match demand with supply, it is essential for firms to be equipped with supply chain visibility and co-ordination tools. Co-ordinating with suppliers and 3PLs who do not have the requisite IT capabilities is described as a supply chain challenge by our interviewees. Thus, service providers are investing to upgrade their IT capabilities in order to communicate with the shippers as well as other potential customers. On the other hand, shippers are more focused on the better understanding of consumer behaviours as the agile supply chain and data analysis techniques are the top two widely adopted supply chain practices (45.5%) (see Figure 5).

Although 3PLs and shippers differ in their supply chain practices due to the different goals they want to achieve, both large 3PLs and large shippers also have similarities. Agility in supply chain and business analytics are widely adopted by approximately 50% of large companies.

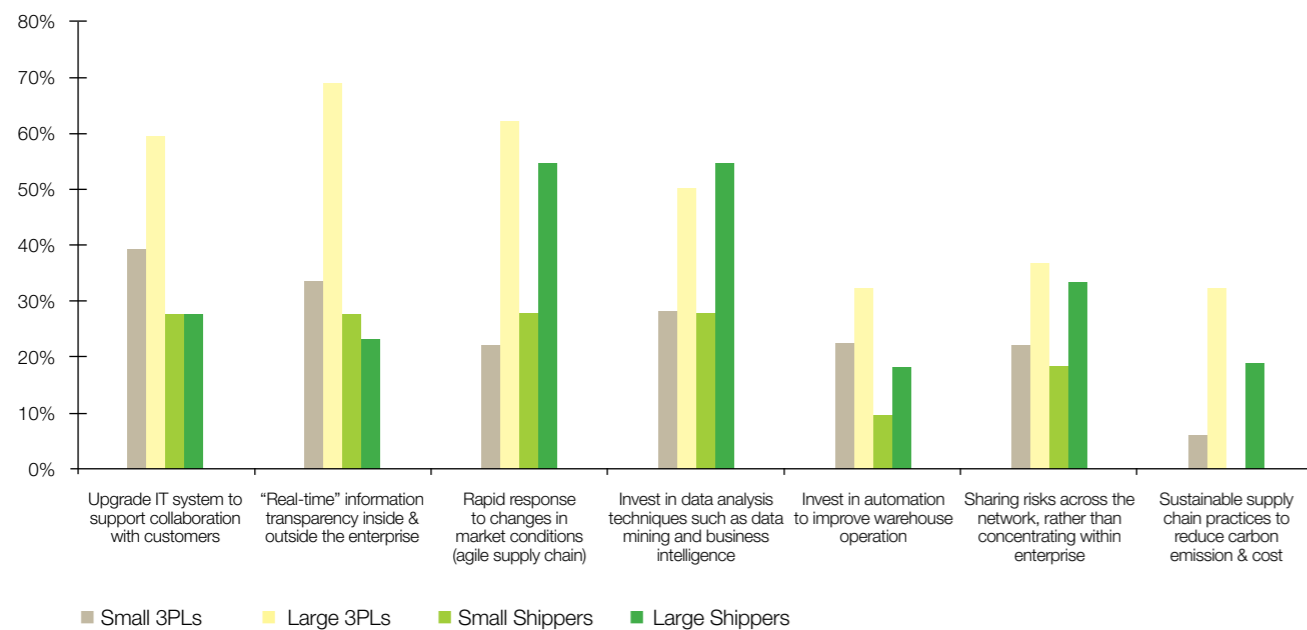


Figure 5: Adoption of Supply Chain Practices

Globalization has Encouraged Closer Relationship Management with Customers

Globalization necessitates redesign of the supply chain management process to improve efficiency and effectiveness of cross-border trade. Many companies, both large and small are initiating closer relationship

management with customers to perform better in new markets especially in Asian countries, including ASEAN, where relationships play a vital role in business. The results have shown that 86% of large 3PLs and 76% of small 3PLs have forged close relationships with their customers, which is the highest among all the global expansion program initiatives (see Figure 6).

Companies that want to expand globally face various challenges as they navigate the complex regulatory, financial and logistics issues created from international trade. Survey results showed that the service reliability of external providers and evaluating /managing new partners are two of the major challenges both service providers and shippers have experienced while operating in new markets (see Table 3).

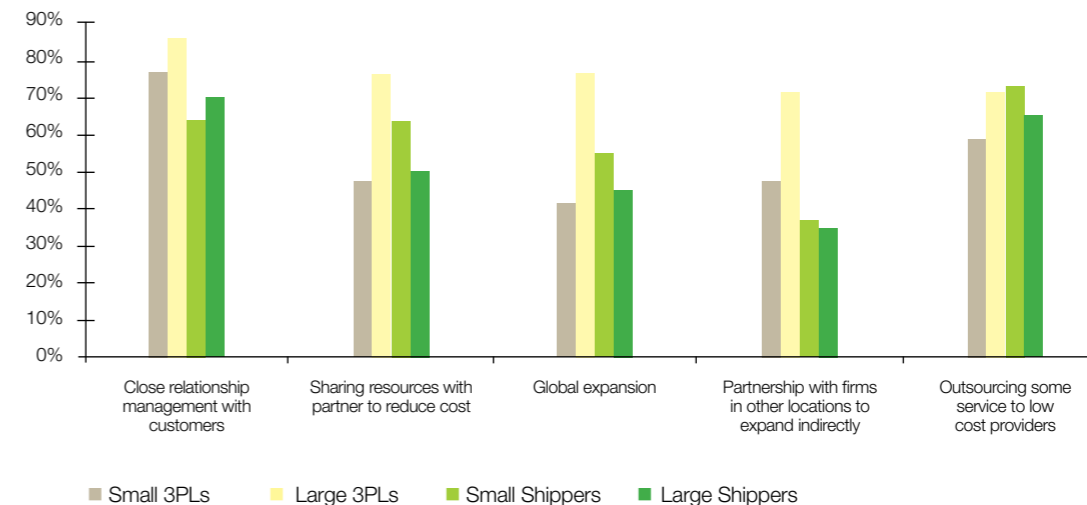


Figure 6: Global Expansion Programs that Have Been Initiated

Global expansion & partnership (Challenges / Concerns)	Small 3PLs	Large 3PLs	Small Shippers	Large Shippers
Service reliability of external providers	75%	64%	55%	42%
Difficulty in evaluating / managing new partners	65%	59%	55%	42%
Service quality decline after outsourcing	53%	43%	27%	37%
Regulatory / legal issues in relationship with partners or customers	25%	48%	27%	37%
Difficulty in sharing information with external providers or partners	19%	48%	18%	37%
Higher risk of global expansion	25%	33%	27%	16%
Difficult to adjust to new environment in global expansion	13%	33%	45%	16%

Table 3: Challenges that Companies Have Experienced due to Globalization

IT Capabilities Gaps: Enhancing Customer Service Quality is the Primary Motivator for IT Adoption

The strongest motivator for IT adoption is enhancement of customer service quality. This is true for large shippers and for all logistics players as can be seen from the following Figure 7. Other important motivators include reducing operation / inventory costs and organizational self-motivation (the top motive for small shippers).

On the other hand, the main barrier to IT implementation is an internal issue. The survey results showed that the main concern for both logistics providers and shippers is limited organizational resources, followed by speed of IT development / obsolescence and inadequate financial resources (see Figure 8).

In-depth interviews showed that a few large and global 3PLs have developed their own in-house IT systems with a few modules supplied by IT vendors. The reason for this according to one interviewee was that initially

these firms were small establishments with limited need for IT and small budgets. As their operations grew, more value-added IT services were added, and the IT platform became complicated. However instead of revamping the whole system, which would result in large IT spending, a few modules were added to cater to customers' requirements. Some 3PLs also tend to follow their big clients and hence developed multiple systems for compatibility with those clients.

Although both small and large logistics providers use similar IT technologies for similar purposes, the large 3PLs seem to have the most equipped IT systems among the four segments analyzed in this survey. Except for Enterprise Resource Planning (ERP) and Material Resource Management (MRP) which are more relevant to shippers, large 3PLs have the highest implementation of most of the IT technologies, warehouse technologies, and transportation technologies especially in areas of Electronic Data Interchange (EDI), Logistics Information System (LIS), Radio Frequency Identification System (RFID), and Global Positioning System (GPS) (see Figure 9-11). Large 3PLs are also equipped with more automated tools in warehousing management, such as automated material handling equipment (used by 45% large 3PLs versus 21% small 3PLs) and automatic sorting system (used by 41% large 3PLs versus 7% small 3PLs). As for RFID, 55% of the large 3PLs use the technology in their warehouses compared to only 21% of small 3PLs, 9% of small shippers and 29% of large shippers.

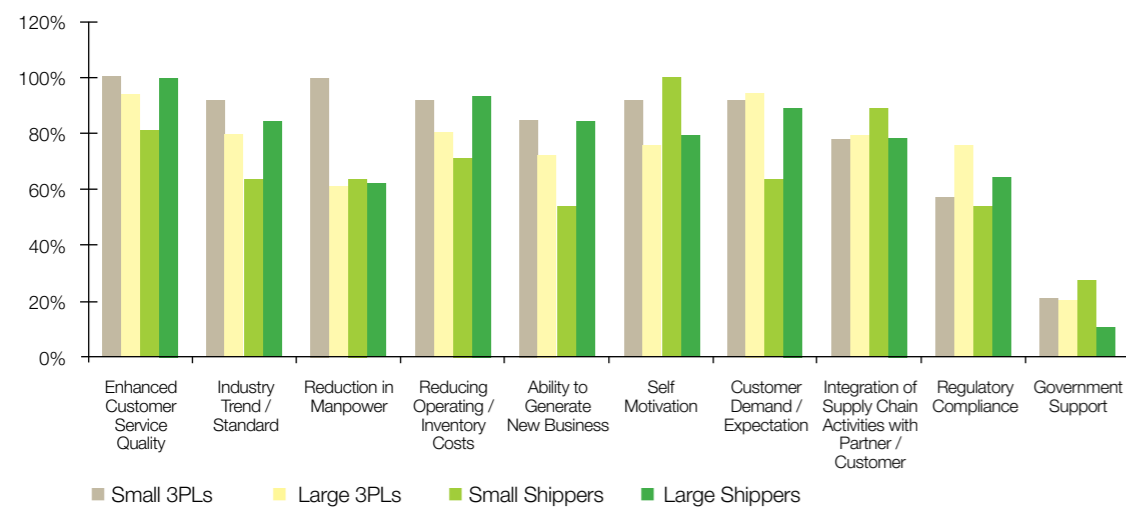


Figure 7: Current Motivators for IT Implementation

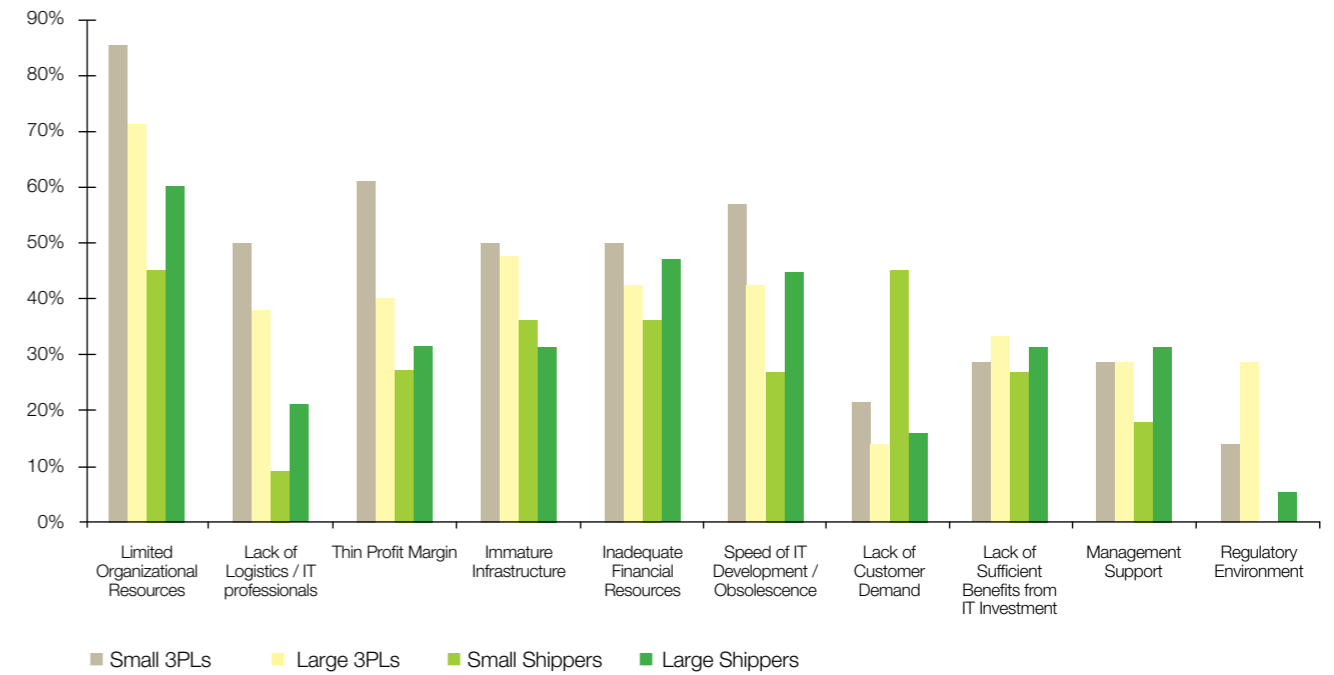


Figure 8: Barriers of IT Implementation

The low adoption of the more specialized technologies such as RFID and Geographical Information System (GIS) could be attributed to the high costs involved. In the case of RFID, the availability of low cost labour

which acts as a substitute is also a factor in its low adoption rate. At the moment, RFID tends to be used for high value items with specialized needs such as pharmaceuticals which require temperature control.

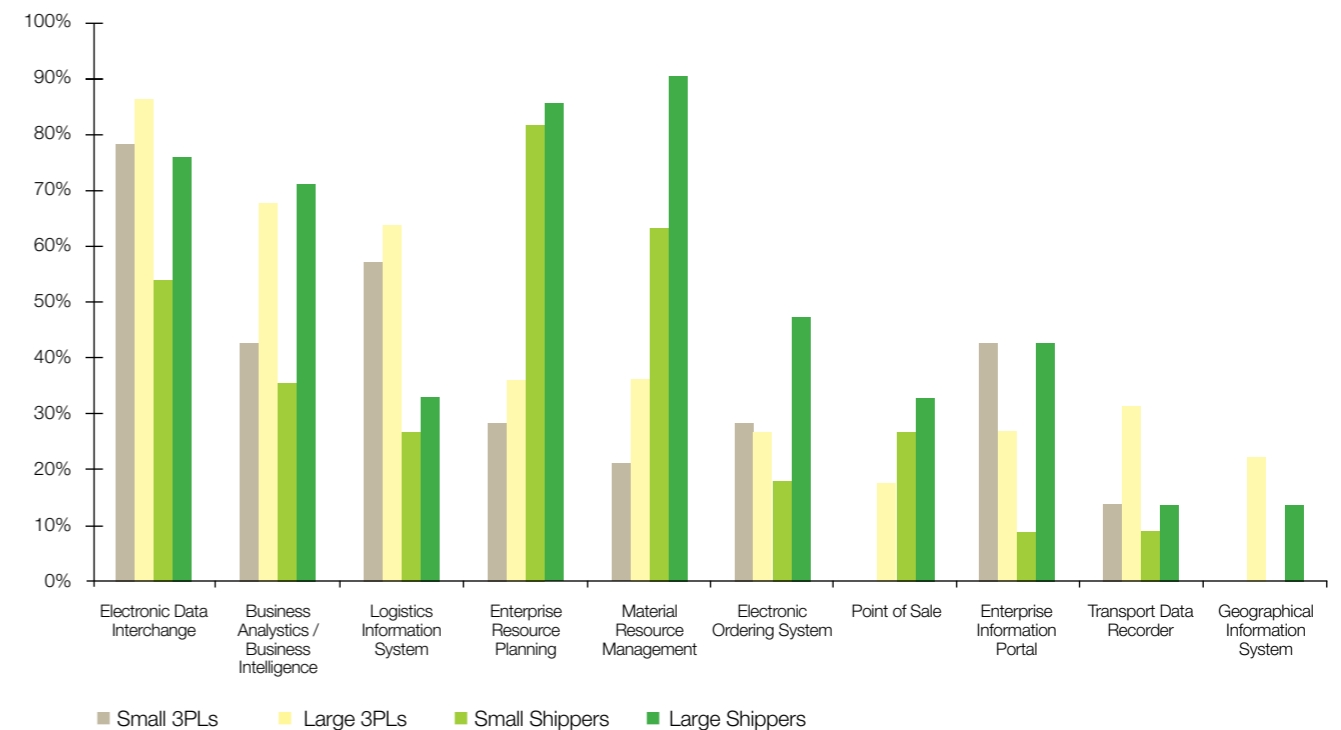


Figure 9: Information Technology Tools Used

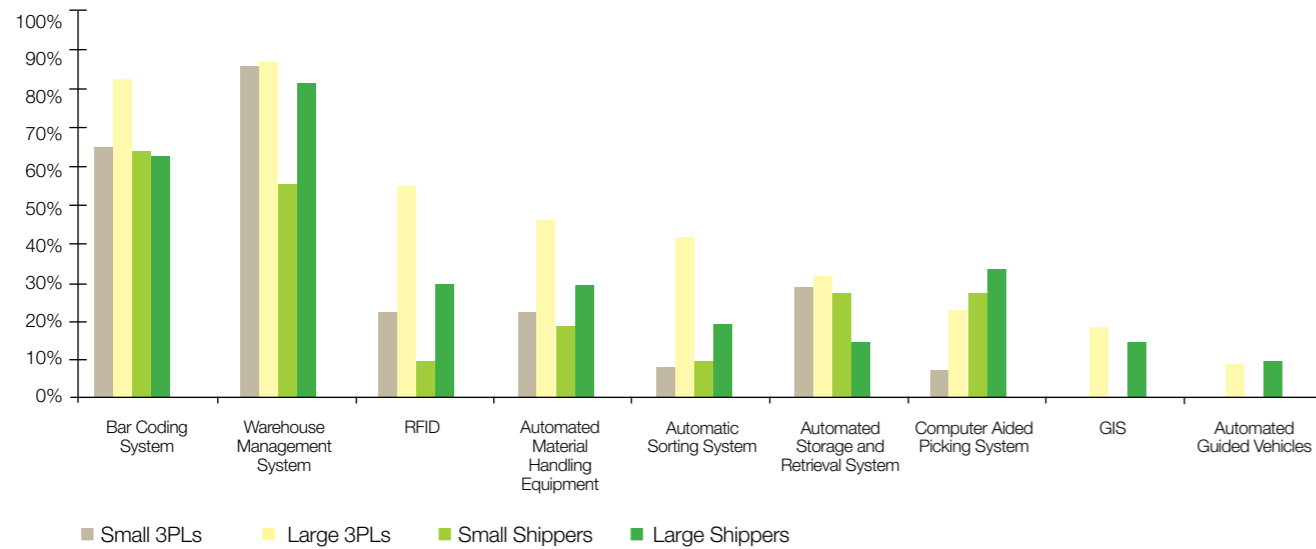


Figure 10: Warehouse Technologies Used

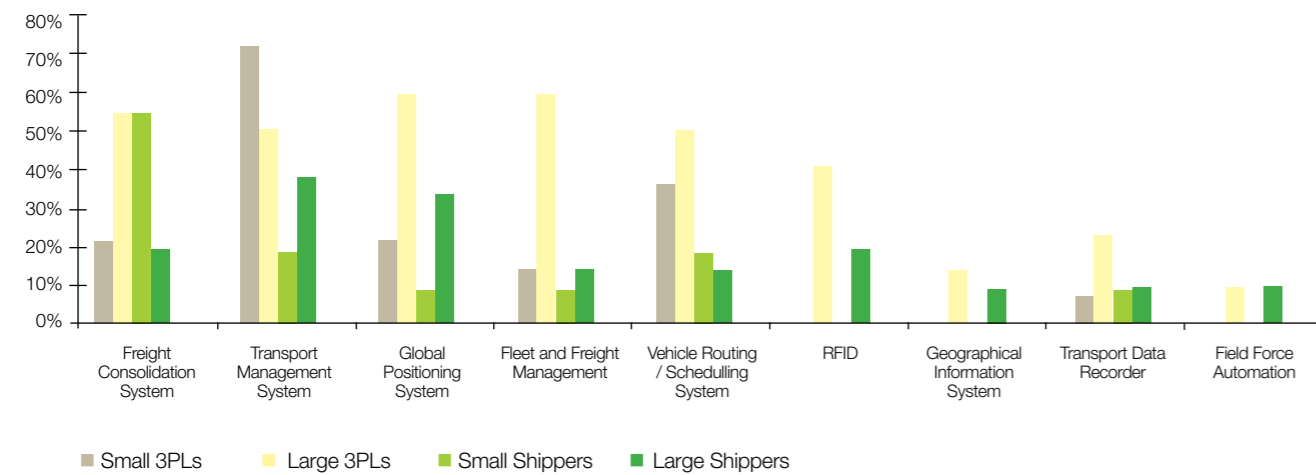


Figure 11: Transportation Technologies Used

Collaboration Practices Among ASEAN Logistics Providers Not Widespread

The adoption of several well-known supply chain collaboration practices such as customer inventory planning and deployment programs (VMI) and collaborative demand planning, forecasting, and replenishment programs with customers (CPFR) among 3PLs in ASEAN is not extensive. Both small and large logistics providers have some form of implementation. The collaboration practice that is implemented the most is shared, real-time data for delivery and inventory (see Table 4). More large 3PLs have implemented collaboration practices compared to the smaller companies. This could be due to the up-front cost involved in setting up the system. In terms of effectiveness, 55% of the large 3PLs who have implemented shared, real-time data to be extremely effective while only 31% of small 3PLs agreed.

Collaboration Practice	Small 3PLs		Large 3PLs	
	Some	Extensive	Some	Extensive
Shared, real-time electronic delivery / inventory data	62%	31%	30%	55%
Management of inventory at customer company	46%	31%	57%	38%
Collaborative demand planning, forecasting, and replenishment programs with customers (CPFR)	69%	0%	38%	33%
Customer inventory planning and deployment programs (VMI)	62%	8%	55%	35%
Continuous replenishment programs for customers	46%	23%	55%	50%

Table 4: Extent of Implementation of Collaboration Practices among Logistics Providers

Green Supply Chain Practices Not Apparent in ASEAN

The adoption of green supply chain practices in ASEAN is lagging for both logistics providers and shippers. The large companies seemed to be more active in implementing green practices as well. As transportation modes are a major cause of carbon emissions in the logistics industry, large logistics companies' green supply chain initiatives are mostly on carbon emission reduction. Shippers, both large and small, do not place much emphasis on sustainability either. Most of their green initiatives are centred on process design and packaging (see Figure 12). Perhaps after the financial crisis, most firms are focusing on profitability and not as concerned about green initiatives.

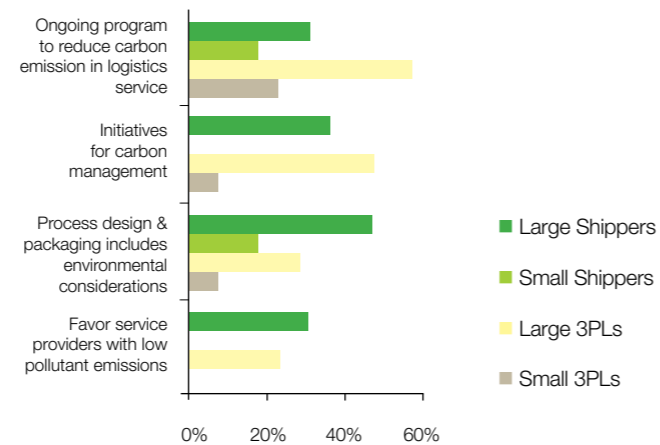


Figure 12: Green Supply Chain Practices of Companies
 *Note: Based on those who have answered "Significant Extent" and "Great Extent".

Shippers Outsource More Logistics Activities

Based on the survey, transportation was the most outsourced activity followed by customs /export management while the least outsourced activity was customer order and call operations, as well as non-core function outsourcing (see Table 5). Large 3PLs outsourced the least of their business functions. A large percentage of shippers, regardless of the size, outsource most of their transportation, customs/export management, and warehousing needs. As ASEAN countries are export-oriented, outsourcing these three functions could also result in cost savings. It shows shippers tend to outsource most logistics operations to professional service providers such as 3PLs as logistics normally is not their core competency. On the other hand, 3PLs often view their logistics operations as the key strength and keep most of them in-house, though

small 3PLs may outsource their transportation operation to external partners due to their limited resources.

Interview findings have further shown that the logistics strategy actually differ from company to company and industry to industry in the region. In a few ASEAN countries where the network of the regional provider is not strong, firms are willing to experiment by either engaging local vendors or in-sourcing logistics services such as trucking and warehousing and managing their own logistics operation.

The decision between outsourcing and self-management depends on the market conditions. It is a complex decision and one that is essentially based on the cost and quality of 3PLs in the market. Where not many regional service providers have operations and costs are high, manufacturers have to self-manage the logistics. An advantage of outsourcing logistics operation to a local vendor as cited by an interviewee, is that they deal with the customs directly which is critical in countries having a complex regulatory environment. Pilferage and safety of warehouses and manufacturing facilities are issues faced by firms in certain nations.

Business Functions	Small 3PLs	Large 3PLs	Small Shippers	Large Shippers
Transportation	54%	35%	91%	90%
Customs / export management	0%	15%	55%	55%
Warehousing	31%	15%	73%	60%
Field services / reverse logistics	8%	5%	27%	35%
Customer order and call operations	0%	5%	9%	15%
Non-core function outsourcing (e.g. finance, HR)	0%	11%	9%	5%

Table 5: Extent of Outsourcing



Conclusion

The logistics industry in ASEAN is dynamic and constantly evolving as the industry strives to keep up with the changing business landscape after the 2008 economic crisis. Thus, it is not surprising that results show that the most challenging factor affecting the businesses of 3PLs is aggressive competition while shippers are more concerned with supply chain visibility and meeting customer needs. In addition, both 3PLs and shippers are also under pressure to reduce cost following the global economic crisis. Green strategy is lagging for both logistics providers and shippers in ASEAN and is the least of the companies' concerns.

Due to globalization, companies are initiating closer relationship management with customers to perform better in new markets in ASEAN, where relationships play a vital role in business. This reflects in the strategies of logistics providers which are focusing on serving their customers better by upgrading their IT systems and adopting 'real-time' information transparency. Enhancing customer service quality is the strongest motivator for IT adoption for companies in ASEAN.

There are distinctly different patterns of IT, warehouse and transport technology adoption between large and small 3PLs with large providers showing higher adoption across the board. This supports large 3PLs' focus of managing the entire supply chain which is a lower priority for smaller 3PLs. Large players also share resources with their partners to reduce risk and

participate in higher numbers in global expansion. We feel smaller 3PLs need to consider such technology enablers with the aim of providing full supply chain. This will enable them to compete more effectively in the market.

The biggest inhibitor to IT adoption is limited organizational resources and all players may consider shared platform delivery solutions and shared services to adopt technologies without consuming significant resources. We also notice that regulatory compliance and government support are not strong drivers of technology adoption and feel this could be improved by various supporting measures by the government.

Historically, organizations that have invested in designing solutions typically involving technology as the enabler or in some cases as the conduit for change with a medium-term view have achieved greater productivity benefits and improved investment returns. If logistics providers are able to adopt a similar approach and support greater integration, it will enhance the industry and competitiveness.

Unlike Europe and North America where sustainability is mandated and the general populace is proactively conscious of environmental issues, the general Asian region encompassing ASEAN is lagging. The results of this study appear to reinforce this. It will be interesting to see the progress and results of another THINK Executive initiative, "Sustainable Supply Chain Center - Asia Pacific (SSCAP)".

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