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THE USE OF THIRD PARTY LOGISTICS SERVICES: A MALAYSIAN PERSPECTIVE

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Abstract

This paper examines the usage of third party logistics services in Malaysia. An empirical research study was carried out to determine the extent to which Malaysian firms use the services of logistics companies; the time period these have been used; the decision making process for choosing contract logistics and its impact on the organisation. Results based on the analysis of data relating to 124 firms in Malaysia indicate that most of these users are satisfied with the services providers and have largely seen positive developments within the organisation. With a high current level of satisfaction, most firms surveyed indicated a moderate to substantial increase in usage of their services.

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With the globalisation of businesses and the consequent competitive pressures, there has been an increasing dependence on the ability of organisations to deliver customer-adapted products all over the world quickly and on time. This has placed a number of demands on the logistics system and has become a rapidly developing area of investigation. In fact, it has been referred to as the last frontier for the development of strategic competitive advantage (Hum, 2000). To gain a competitive advantage, many organisations are seeking to manage their logistics operations strategically, but realise that they lack the core competencies and are increasingly seeking to outsource their logistics activities (Hum, 2000). Apart from this, another important development that is making an impact on the organisations is the increased emphasis on time based competition (Bhatnagar, Sohal, and Millen, 1999). Broadly, time based competition refers to the speed with which products can be manufactured, delivered to the market and serviced.

Much has been written in recent years about outsourcing logistics activities. There have been various terms used to describe this phenomenon such as logistics alliance (Bowersox, 1990), operational alliances in logistics (Laarhoven and Graham, 1994), contract logistics (Kearney, 1995), contract distribution (Wilson and Fathers, 1989) and third party logistics (for example, Lieb and Randall, 1996). However, third party logistics (3PL) has been the term more widely used in recent times.

Given the growing importance of logistics outsourcing, the extent of its usage has been widely examined in the USA (Lieb and Randall, 1996). Sheffi (1990) describes how the 3PL industry in the United States has developed, and mentions several economic, regulatory and technological trends driving the development. Virum (1993) discusses 3PL development in Europe based on case studies of three Dutch and two Swedish providers. Other studies in the European context have also been undertaken (Lieb and Wassenhove (1993a). An examination of the usage of 3PL services by large Australian firms (Dapiran, Lieb, Millen and Sohal 1996) revealed that a number of operating units at many of the largest Australian firms were utilising the services of contract logistics providers. Some studies have outlined the linkage between manufacturing firms and 3PL services providers in Hong Kong, Southern China, Japan and South Korea (Millen and Sohal, 1996). In the South East Asian region, it was reported that Singapore based firms are generally satisfied with the services of 3PL service providers.

With the advent of multi-modal logistics in Malaysia, service providers have been focussing on establishing linkages and forming an entire logistics chain. Another trend noticeable in the 3PL industry in Malaysia is that most of the players specialise in the field as freight forwarding, container haulage, warehouse operation or conventional truckers and operate with minimal linkage to the other components in the logistics chain (New Strait Times, 1998). The current crop of 39 players in the industry are limited in size and operating capacity with duplication of services offered being considered as too many in the industry. Companies have been merging into larger entities to take advantage of the economies of scale and extend market coverage, as the value of a logistic company invariably lies in the market coverage of its network. However, to our knowledge, we have not found any comprehensive studies reported in the literature focussing on the extent of third party logistics by firms in Malaysia. This study aims to fill this gap.

LITERATURE REVIEW

A wealth of literature exists on the advantages and extent of usage of 3PL. Logistics is just not about lifting and shifting, claims Christopher (1993) but has an important contribution to make to gaining competitive advantage. Fuller (1993) suggests that an important reason for the growth of 3PL services is that companies compete in a number of businesses that are logistically distinct due to varied customer needs. Most providers have specialised their services through differentiation, with the scope of services encompassing a variety of options ranging from limited services (for example transportation) to broad activities covering the supply chain. Providing an overview of logistics into the 21st century, it has been proposed that planning and forecasting will be very important, if somewhat difficult (Cooper, 1994).

A further insight into the literature on international logistics providers reveals that there have been three waves of entrants into the 3PL market (Berglund et al 1999). The first wave date backs to the 1980s or even earlier with the emergence of 'traditional' logistics providers, whose activities usually emerged from a traditionally strong position in either transportation or warehousing. The second wave dates from early 1990, when a number of network players, for example DHL, TNT and FedEx started their logistics activities. The third wave dates from the late 1990s where a number of players from areas of information technology, management consultancy and even financial services are working together with players from first and second waves.

A number of studies have been conducted in the past to determine the future of logistics services. Lieb et al. (1993b) compared the experience of the US and European manufacturers in using third party logistics services. The authors tested the following factors in defining the extent of usage- level of commitment to the usage of third party logistics; percentage of total logistics budget allocated to third party providers; geographical coverage provided by third party firms; the third party services utilized, for instance warehouse management, shipment consolidation, fleet management, order fulfilment, product returns, carrier selection, logistics information systems, rate negotiation, product assembly, order processing, inventory replenishment; and the nature and length of third party contracts. The study indicated that European firms were significantly more committed and allocated a larger share of the overall logistics budget to their 3PL company, as compared to their US counterparts. However companies from both regions agreed that outsourcing need not be an all or nothing proposition. Dapiran et al. (1996) have presented an overview of the 3PL usage by large Australian firms. The findings of these authors indicate that the Australian firms are comparable to US firms in their usage of 3PL services, with more than one-fifth of the firms characterizing their commitment to 3PL as extensive, and one-quarter of the firms allocating more than 50 per cent of their total logistics budget to contract providers. Fleet management, warehouse management, and shipment consolidation were the most frequently outsourced logistics services.

Sheffi (1990) suggested several reasons for the growth of logistics outsourcing in USA, which include the need to focus on core businesses; better transportation solutions; cost savings and improved services; development of necessary technological expertise and computerized systems (which is beyond the scope of many companies) and the need for more professional and better-equipped logistics services. Similar reasons were also reported by Bardi and Tracey (1991) in an empirical study of the transportation outsourcing practices of US companies.

Roberts (1994) reported that the level of service provided, quality of the people, and cost are the three most used evaluation criteria when choosing a qualified logistics contractor. The author suggests that while cost and service are the major issues, the most noticeable change is the emphasis on the quality of people, particularly in the operational area. Therefore, to provide the high level of customer service, contractors must employ the best people with the relevant expertise. This is also reflected in the work of Dapiran et al. (1996) and Lieb et al. (1993b) who found that while cost and service are the most important criteria, prior experience with the third party firm, company reputation, "total package offered", information handling capability and compatibility of information systems were other important factors.

In a study on the extent and usage of 3PL services in Singapore (Bhatnagar, Sohal, and Millen, 1999), it was found that most users of these services were satisfied with their providers and believed that this will lead to positive developments within the organisations. Most Singaporean firms had been utilising the services of contract logistics providers for many years. Cost reductions and improved service quality levels were seen as the main benefits realised by the user firms.

METHODOLOGY

To determine the current usage of third party logistics services in Malaysia, a survey was conducted during the second half of year 2000. The survey instrument was based on the questionnaire developed by Dapiran et al (1996). Minor changes were made to localize the questionnaire for the Malaysian environment. The focus of the survey instrument was on the following areas:

- the extent to which firms use the services of contract logistics companies;
- the specific contract logistics services used and the benefits which have emerged for the user firms;
- the obstacles encountered in implementing contract logistics relationships;
- the impact of the use of contract logistics services on logistics costs, customer satisfaction, and employees of the user firm;
- the future plans of current users of contract logistics services.

The sample population was drawn from two sources. Firstly, samples were picked at random from a list of all registered companies listed under the Kuala Lumpur Stock Exchange. Secondly, sample was drawn from a list of manufacturing and resource based industries obtained from the 'Directori'(2000). Financial, banking, real estate, and insurance organizations were eliminated from the group, as they were less likely to have significant logistics needs. A total sample of 800 companies was selected at random. These firms were then contacted by telephone to obtain the name and address of a senior personnel undertaking responsibilities for logistics operations of the company. Within one week of the telephone contact, a questionnaire with a cover letter and pre-paid reply envelope were mailed to the executives. A total of 124 questionnaires were received in the following five-week period. This represented a response rate of about 16 per cent, which compares favourably to response rates for other recent studies of the use of contract logistics services (for example Bhatnagar et al 1999, Dapiran et al 1996, Lieb et al 1993b and 1996). Analysis of the responses is presented in the next section.

RESULTS

Out of the total of 124 responses, 84 respondents indicated that their firms used 3PL services, while 40 did not use contract logistics services. Table 1 comprises the employment characteristics of these two groups of firms. Over 80 percent of the firms that use 3PL services employed less than 500 people, while over 75 percent of those firms not outsourcing had an employment of under 500 employees. Based on the number of employees, on observation, it is apparent that there is no significant difference between the firms that choose to outsource and those that do not.

Table 1: Employment characteristics of responding firms

Approximate Current Employment	Number of respondents (Outsourcing)	Number of respondents (Not Outsourcing)
< 200	36 (42.9%)	23 (57.5%)
200-499	35 (41.7%)	14 (35.0%)
500-999	8 (9.4%)	3 (7.5%)
1000-4999	4 (4.8%)	0
5000+	1 (1.2%)	0
Total	84	40

Extent of use

Of those firms currently outsourcing logistics services, 63 per cent indicated that their firms employ the services of more than one contract logistics firm. Among the respondents, less than 45 percent of the non-users are looking into the use of these service providers and the remaining do not plan to investigate the use of such services in the near future.

Of those using contract logistics services, most are relatively experienced with the concept. Forty-five percent of the respondents indicated that they had been using the services of 3PL providers for over five years; 18 per cent between three to five years and 27 percent between one to three years. About 10 percent of the respondents stated that they had been using the services of 3PL providers for one year or less. Table 2 provides an analysis of the size of the firm based on employees with the length of experience with the contract logistics service providers.

Table 2: Size of firms and length of experience with contract logistics services

Number of employment	Length of service used			
	< 1 yr	1-3 yr	3-5 yr	> 5 yr
< 200	6 (7.2%)	9 (10.8%)	7 (8.4%)	15 (17.8%)
200-499	2 (2.4%)	9 (10.8%)	7 (8.4%)	17 (20.5%)
500-999	0	3 (3.6%)	1 (1.2%)	3 (3.6%)
1000-4999	0	1 (1.2%)	0	3 (3.6%)
5000+	0	0	0	1 (1.2%)
chi-square	0.825			

As for the firms commitment to the use of contract logistics services, firms have been consistent in stating that there has been a moderate to extensive commitment. Table 3 provides an overview of the firms commitment to the usage based on the size of the firm. It can be seen that no relationship exists between the level of usage and number of employees.

Table 3: Firms commitment to usage based on size of firms

	Level of usage
Number of employment	
< 200	2.94
200-499	2.83
500-999	2.71
1000-4999	3.25
5000+	4.00
p-value	0.31

Notes: mean scores based on a range with which 1=very limited, 2=limited, 3=moderate and 4=extensive; p-value is based on a statistical significance at 0.05

The decision-making process

Those surveyed were asked to indicate the organizational level at which the strategic decision to use contract logistics services originated within their company. There was a considerable variation in the answer. While 35 per cent indicated it originated at the corporate level, 24 per cent traced it to the divisional level, and 41 per cent said it began at the local level.

Regarding the awareness of contract logistics services, an overwhelming 71 percent of the companies reported that they became aware of the services of the 3PL provider through sales call by representative of the contract logistics company. Table 4 presents the most frequently cited ways through which companies became aware of using contract logistics services.

Table 4: Information sources of contract logistics services providers

Information source	Number (%) of respondents citing that source
Sales calls by contract logistics representatives	60 (71.4%)
Sales contact at a logistics conference	4 (4.8%)
Discussions with other logistics professionals	13 (15.5%)
Advertising in professional publications	4 (4.8%)
Direct mail advertising from contract logistics firm	3 (3.6%)
Others	21 (25.0%)
Others include 1) recommendations from friends, suppliers and customers 2) market contacts 3) Appointed by customers	

Managers in other functional areas are routinely involved in the decision to use the services of contract logistics companies. The responses indicates the participation of managers in other functional areas in the decision to use contract logistics services, personnel from the marketing department were involved in the decision process in one third of the firms; finance department personnel were involved in 38 per cent of the firms; HRM and manufacturing department personnel were involved in 10 per cent of the firms. Some firms also reported involvement of personnel from product, administration, and information systems.

Contract logistics services used

The use of contract logistics services in Malaysia is primarily focused on domestic operations, 31 per cent of the firms employed contract logistics service providers for domestic operations only. Two thirds of the firms surveyed used such services for both international and domestic operations. Only two respondents indicated that their firm uses such services for international operations only. Companies surveyed use a wide range of contract logistics services as is shown in Table 4. Functions relating to shipment consolidation have been outsourced by a majority of the firms and fleet management has been outsourced by almost 50 per cent of the respondents. Those logistics functions outsourced by at least one-third of the respondents include freight payment, carrier selection, rate negotiation and warehouse management.

Table 4: Frequently used contract logistics services

Logistics Service	Number (%) of respondents citing use of contract firm for that service
Carrier selection	33 (39.3%)
Rate negotiation	31 (36.9%)
Fleet management/operations	41 (48.8%)
Warehouse management/operations	28 (33.3%)
Inventory replenishment	20 (23.8%)
Order fulfilment	25 (29.8%)
Order processing	13 (15.5%)
Product assembly/installation	9 (10.7%)
Product returns	17 (20.2%)
Customer spare parts	3 (3.6%)
Shipment consolidation	49 (58.3%)
Logistics information systems	18 (21.4%)
Freight payment	35 (41.7%)

Implementation

Respondents were asked to indicate the major reservations expressed by senior managers when the possible utilisation of contract logistics was first discussed. One quarter of the respondents identified cost implications of outsourcing and service quality issues as their concerns. Other concerns reported were the risk factor - the risk associated with giving the job to an external company; time factor - whether there will be any time saved; familiarity of the firm's business and its products by the 3PL providers; reputation of the 3PL provider; promptness of delivery; the potential loss of direct control of logistics activities; and uncertainties about the capabilities of the contract logistics firms.

The survey focussed on determining the most important factor in making the final selection among competing companies. In answering an open-ended question, more respondents noted cost versus service factors.

One thirds of the respondents noted cost considerations as the most important selection factor, while 16.7 percent stated that service considerations were most important. Just over one-fifths (21%) of the respondents considered the reputation and experience of the contractor as the most important factor in making the final selection. Other factors cited by respondents as being most important were personalised services, knowledge of the contractor, coverage provided, familiarity with customs procedures, professionalism and compatibility with the system.

Training

Because the introduction of contract logistics services into a company represents an important shift in the way in which business is conducted, it might reasonably be assumed that related training would occur. However, only 15 per cent of the respondents indicated that there was a need for retraining employees. The primary focus of the retraining efforts has been on acquiring purchasing skills, information and computer systems and familiarising with logistics procedure and documentation

About half of the total users of contract logistics services identified in this survey indicated that implementation of those arrangements did not necessitate retraining of logistics personnel. The training efforts that have been undertaken have typically focused on information and computer systems, and new technologies. Only one firm noted that it had introduced a programme in change management, while another firm indicated that it had begun a programme in team building including personnel from the contract logistics firms.

There has been a considerable variation in the degree of commitment to outsourcing. Well over one-half (58 %) of users indicated that their firm's commitment to the concept was "moderate", 17 per cent as "extensive", 24 per cent as limited and only one respondent indicated his/her firm's commitment was very limited. Table 5 provides an overview of the percentage of logistics costs based on the size of the firm. As can be seen there is no significant variation in the payment based on the size of the firm.

Table 5: Percentage of total logistics costs paid to contract logistics companies

Number of Employment	Percentage of logistics costs paid
< 200	4.43
200-499	4
500-999	4
1000-4999	4
5000+	1
chi-square	0.937

Notes: grouped median scores are based on a range from 1=0-10% to 10=90-100%

Contract usage with services providers

Nearly forty per cent of the respondents had signed contracts with their services providers. Of these contracts, only one firm had signed for a period of less than one year; eleven firms had signed contract for a period of between one to three years; and 6 firms had contracts ranging for a period between three to five years. Almost one-half (45%) of the firms had entered into contracts for usage of services beyond five years. Of all these contracts, 15 percent had included performance incentives; 38 per cent contain penalties for non-performance and about 20 percent reported including both.

Organizational impact

According to the survey respondents, companies using contract logistics services typically experience multiple benefits. The most frequently cited benefits are time saving (16.7%), cost savings (27.8%), improved customer service (6.7%), and freight payment/ credit terms (4.4%). Other important benefits reported by respondents include a more effective utilization of firm's human resources, better delivery and handling of cargo, faster and reliable services, round the clock availability of transportation, and enhancement of information technology system from external parties.

The respondents were asked to categorize the impact of those services on their companies in terms of logistics costs, internal logistics system performance, customer satisfaction and employee morale. The responses are summarized in Table 6. It can be seen that the use of contract logistics services has had a strong positive impact on costs, system performance, and customer satisfaction. Seventy percent or thereabout of the respondents noted the impact as "positive", while an average of about twenty percent had reported the impact as "very positive" in each of these areas. Interestingly, 68 per cent of the respondents noted the impact of the use of contract logistics service providers as having a "positive" or "very positive" impact on employee morale. This level is somewhat surprising in that 50 per cent of these firms indicated that their use of contract logistics service providers had permitted their organization to reduce the number of full-time logistics positions.

Table 6: Organisational impact of logistics outsourcing

Area of impact (percentage)	Nature of impact			
	Very negative	Negative	Positive	Very positive
Employee morale	0	4.8	84.5	10.7
Logistics costs	0	3.6	67.9	28.6
Customer satisfaction	1.2	4.8	69.0	25.0
System performance	1.2	9.5	70.2	19.0

Data on the extent of employee reductions based on the size of the firms is provided in Table 7. Just over one-half of the respondents (53.6%) indicated that there had been no elimination of full-time positions in their company. Of those firms that had eliminated logistics positions, 16.7% reported that the elimination of employees was under 20 per cent, 17.9% reported elimination of between 21-40 per cent, 7.1% reported between 41-60 per cent and 3.6% reported between 60-80 per cent. Only one firm reported eliminating more than 80 per cent of the positions in logistics. On the issue of addressing the displaced personnel, one-third of the respondents reported transfers within their firm; 6.0% offered employment with the contract firm and another 6.0 % terminated employees.

Table 7: Number of full time positions eliminated

Percentage of full-time positions eliminated	Number (%) of respondents indicating that category
0%	45 (53.6%)
0-20%	14 (16.7%)
21-40%	15 (17.9%)
41-60%	6 (7.1%)
61-80%	3 (3.6%)
81-100%	1 (1.2%)

Plans for the future

Almost all of the firms using contract logistics services are at least satisfied with the performance of those companies with 10.7% indicating that they were "very satisfied" and 86.9% indicated that they were "satisfied". Only one firm indicated that it was "dissatisfied". Not surprisingly, 94.0% of the respondents indicated that the use of contract logistics services had been a positive development.

When the respondents were asked as to how they would modify their use of contract services if they were given complete corporate responsibility to make that decision, an overwhelming 90% indicated they would moderately or substantially increase use of contract logistics services. Only 10% they would moderately decrease the use or eliminate the use of contract logistics services in their firm. This data is provided in Table 8.

Table 8: Extent of company commitment to logistics services

Employment	Future trends in the usage of service			
	Increase moderately	Increase substantially	Decrease moderately	Eliminate
< 200	24 (28.9%)	6 (7.2%)	1(1.2%)	0
200-499	20 (24.1%)	14 (16.9%)	1(1.2%)	1 (1.2%)
500-999	7 (8.4%)	0	3(3.6%)	0
1000-4999	2 (1.2%)	2 (2.4%)	1 (1.2%)	0
5000+	1 (1.2%)	0	0	0
Total	54(64.3%)	22(26.2%)	6(7.2%)	1(1.2%)
chi-square	0.001			

Note: one firm reported that the extent of usage of logistics service will remain the same

SUMMARY AND IMPLICATIONS

Results reported in this study indicate that a number of operating units at many of the Malaysian firms are utilizing the services of contract logistics providers, and have been doing so for several years. Many of these organizations employ the services of more than one contract logistics firm to provide a wide variety of services. Furthermore, many non-users are interested in this approach as evidenced by the 30 per cent who are exploring the idea.

Those operating units utilizing contract logistics services providers have substantial experience with this practice as evidenced by about 45 per cent having done so for more than five years. The decision to utilize contract logistics firms is almost as likely to originate at the corporate, divisional or local level. However, wherever the idea originates, managers from other functional areas will usually be involved in the decision to outsource. The level of commitment to the utilization of contract logistics providers has been very encouraging with about 75 percent of the firms responding to this survey characterising their commitment as moderate to extensive. Additional evidence of this high level of commitment is provided by the one-half of the firms allocating up to 40 per cent of their total logistics budget to contract providers. In almost all cases, senior logistics executives view the use of contract firms as having had a positive impact on logistics costs, logistics systems performance, customer satisfaction, and employee morale. Based on these results, more than 80 per cent of the managers would at least moderately expand their companies' use of contract logistics firms.

To those logistics executives considering outsourcing, this very positive feedback should be reassuring. The number of experienced organizations provide an important source of information about how to proceed and what to expect. Consideration of the use of contract logistics services providers will bring logistics managers in contact with colleagues in finance, marketing, manufacturing, and other areas, potentially expanding the logistics influence throughout the organization. This should improve the scope of the analysis, as well as subsequently facilitating implementation.

The experience of the firms in this study also provides insights as to how to plan for implementation; for example, the need to educate the third party logistics services provider about the firm's requirements. Programmes to place redundant employees must also be developed.

The survey also contains useful information for the providers of contract logistics services. The most important means for establishing contact with potential customers are through sales calls by representatives of the contract firms and discussions with other logistics professionals. Significant resources spent on other approaches should be questioned, based on the results from this survey. In addition, while users are quite satisfied with their experiences to date, few envision contract providers as a means to enter new markets, develop new customers or expand their current offerings. Those contract logistics firms able to offer opportunities of such a nature may find their markets growing rapidly.

The above analysis of the experience of Malaysian firms in their usage of contract logistics services indicates that the market for third party logistics services in Malaysia has a good potential for further development. While there is still a percentage of firms which have not outsourced their logistics functions, we believe that the vision of developing Malaysia into a logistics hub in the region will further enhance the use of the contract logistics services in the years to come.

This study provides 3PL services providers who are considering Southeast Asia as a potential market, a comprehensive analysis of the current situation in Malaysia.

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