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Identifying the Overarching Logistics Strategy of Business Practices

By

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**ABSTRACT:** In a 'hyper competitive context' (D'Aveni 1994), a major issue for enterprises is the strategic use of logistics capability to gain create and leverage value in the marketplace. Management is now appreciating that a logistics strategy makes a key contribution to corporate strategy and performance. This paper investigates the extent of complementarity between the logistics strategy and business practices in 20 organisations in the management of their operations, inventory, alliances, customers, supply chain integration, performance assessment, information technology and EDI practices. Non-linear canonical correlation analysis is used to establish the degree of concordance between business practices and the logistic strategy for a sample of Australian organisations involved in freight transportation. The evidence suggests that there is very strong synergy between a logistics strategy and the broader set of business initiatives in transport businesses, giving strong support to the overarching role of logistics strategy. This is in contrast to non-transport organisations where logistics is still seen as a separate activity centre, with the exception of information technology and EDI.

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## Introduction

Supply Chain Management (SCM) is changing the way organisations are responding to how they conduct business. As businesses move towards a 'hyper competitive context' (D'Aveni 1994) suppliers of freight transportation and logistics services are faced with *new* pressures from actors within the supply chain as well as from customers seeking greater service improvements than ever before, leading to the realisation that they may not be efficient enough. Achieving greater efficiency in the supply chain means that to remain competitive businesses need to explicitly manage their resources and capabilities. Consequently, many businesses are focusing on their logistics strategy and are employing information technology and other integrative logistics approaches to modify products, services, capital and knowledge. Others are focusing on partnerships, alliances, and buyer/supplier relationships. Reports from industry of shorter cycle times, fewer quality defects, reduced costs, and streamlined processes resulting from closer working relationships with suppliers have suggested a clearer understanding of reciprocal needs and capabilities among buying and supplying enterprises (Minahan 1998).

Embracing an overarching strategy suggests there is a choice in how the enterprise will influence the marketplace. Changes in societies, markets, customers, competition, and technology around the globe are forcing them to clarify their values, develop new strategies, and learn new ways of operating. It is hard to pinpoint any one factor as being most important, and for that reason, each presents a challenge and quite possibly a new opportunity. The real challenge is for organisations to see their performance in the context of an integrated supply chain and their ability to do so under a changing context. The proposition underpinning this paper is that strategic capacity defined as enduring resources and capabilities is potentially more sustainable than that based solely on product and market positioning. Enterprises need to position themselves strategically based on their unique, valuable, and unmatched resources and capabilities. Hence, the aim of this paper is to map logistics practices (eg. alliances, information systems, EDI practices, inventory management, re-engineering, performance measures, environment, communication, customers) against the logistics strategy.

The paper is organised into five sections: background profile of respondent organisations, the empirical framework for the study, graphical interpretation of the canonical correlations, findings and conclusions.

## Background of Respondent Organisations

The study sought to provide detailed knowledge of 20 organisations in regard to the relationship between their logistics strategy, organisational processes and deployment of resources. Fifty per cent of enterprises had commenced operating before the 1980s and two had been established for over 100 years. Fourteen organisations were global in orientation and most had established alliances: 9 had air alliances, 5 equipment maintenance alliances, 3 fleet management alliances, 8 ocean carrier alliances, 13 truckload carriers, and 6 warehousing. Management commitment, cultural values, sharing information and commitment to make it work were identified as the most important factors in successful alliances. Establishing alliances were primarily through

current customer referrals or direct approach. Fifty per cent of respondents believed the internal capability of their employees followed by global coverage contributed to market differentiation. The emphasis on internal capability was matched by their perception that decision making and appropriate staffing were the most significant problems confronting them. In terms of workforce size, they ranged from 15 to 35,000, with 11 enterprises employing 350 employees or less. Customer interest in outsourcing a broad array of logistics services, integrated logistics and competitive pricing are important factors shaping business practices in respondent organisations.

## The Empirical Approach

The empirical study focuses on the underlying relationships between an organisation's logistic strategy and business processes with respect to operations, inventory, alliances, customer focus, supply chain integration, performance assessment, information technology and EDI practices. This focus assists in identifying the extent to which business practices reinforce the logistics strategy or not. This suggests a need for a method that recognises the presence of a large number of strategic positions and a way of comparing these positions to reveal the degree of reinforcement of the logistics strategy through the broader strategic intent of a business. Furthermore, to identify possible trends in how well a logistics strategy is complemented by business practices within particular sectors of activity, it is informative to segment organisations in a way that accounts for possible differences due to industry sector (eg transport compared to non-transport) and geographic coverage (eg domestic or global focus).

Data was collected in face-to-face structured interviews, using a standard questionnaire (Clinton and Ross 1997), which includes 43 questions regarding information technology, channel alliances, performance measurement, management command and control and emerging issues. Two further questions were added to cover environmental logistics. The 44 statements (presented in Appendix A) employed a five-point Likert scale with ordered response categories (5) strongly agree, (4) agree, (3) do not know/indifferent, (2) disagree, and (1) strongly disagree. Five of the statements describe the logistics strategy (Q1-5), with the remaining forty statements representing operations management (Q6, 11, 44, 45), inventory management (Q7-10), alliances (Q 12-15), customers (Q16-19), supply chain integration (Q 20, 21, 29, 30), performance assessment (Q 22-24, 31-36), information technology (Q 25-28, 42, 43), and EDI practices (Q 37-41). The interview also addressed a number of issues such as business development, supply chain capability, services offered and perceived logistics trends.

In analysing these data, three issues common to attitude data have to be taken into account. First, attitudes can only be measured on scales that are ordinal, not cardinal. That is, agree or disagree is monotonically related to the scale value, but it should not be presumed that the intervals between adjacent scale points are equal. Consequently, linear statistical analyses applied to the raw data (such as product-moment correlations, linear regression, and principal components factor analysis) will not necessarily yield accurate conclusions about relationships in the data because such methods assume equal intervals on the measurement scales.

The second objective is to evaluate a large number of strategic statements. Respondents are likely to judge many of the statements as being similarly agreeable or disagreeable

and they may not have formed attitudes towards many of the statements. Thus, high levels of association among groups of statements are expected. A key task is to summarise these associations by identifying patterns in responses. Because the attitude scales are ordinal, associations need to be measured without simply using product-moment correlations calculated from the raw data.

The third objective is to determine how similarities in attitudes are related to segment membership by each organisation. Respondents from the same industry, or those serving similar markets might be expected to have similar attitudes. Thus, the patterns in attitude interrelationships will be a function of selected segment criteria, so the method used for determining these patterns must account for attitudes as a function of segmentation criteria. The mapping between attitudes and segment criteria is one foundation for the identification of the extent of commonality of a logistics strategy.

An appropriate statistical method to analyse these data is non-linear canonical correlation analysis (CCA) that maps the agreement-disagreement responses of each segmented class of organisations (eg transport vs non-transport) in respect of the statement set. The mapping between the logistics strategy statements and the other statements reveals the extent of reinforcement. Separate mappings are developed between the logistics strategy statements and each of the eight categories of other statements for two segments: market niche (transport vs non-transport) and geographic coverage (global vs domestic).

A nonlinear CCA problem involves an explanatory variable matrix defined by a single nominal (segment) variable and a dependent variable matrix defined by a series of ordinal attitude scales. The linear combination on the explanatory variable side is undefined, because we have no metric to quantify the categories of each nominal variable. The linear combination of the variables on the dependent side is also undefined, because the categories of each variable can be re-scaled by any nonlinear function that preserves monotonicity. Thus, we need to optimally scale or quantify the variables while simultaneously solving the traditional linear CCA problem of finding weights for each explanatory variable.

A solution to the nonlinear CCA problem was first proposed by researchers at Leiden University (De Leeuw 1984, Van der Burg 1988 and Gifi 1990). The method simultaneously determines both (1) optimal re-scaling of the nominal and ordinal variables and (2) explanatory variable weights, such that the linear combination of the weighted re-scaled variables in one set has the maximum possible correlation with the linear combination of weighted re-scaled variables in the second set. Both the variable weights and optimal category scores are determined by minimising a loss function derived from the concept of "meet" in lattice theory (see Gifi 1990).

A nonlinear CCA solution involves, for each canonical variate, weights for all the variables, optimal category scores for all ordinal and nominal variables, and a canonical correlation. Graphical representations are very important in interpreting this plethora of results. Several authors have argued that graphical representations are even crucial in understanding the results of linear multivariate methods, because patterns in the data can best be detected visually (Cailliez and Pagès, 1976; Ter Braak, 1990).

## Graphical Display and Interpretation

The interpretation of non-linear CCA is based on graphs displaying the relationship between two or more sets of variables. By using a matrix approximation approach (Rao 1980) in conjunction with the biplot technique (Gabriel 1971, 1981) the plot yields (by way of scalar inner products) approximate values of the correlations between the variables of the one set and the other set, and that the approximation is best in a weighted least-squares sense.

To interpret the results of a non-linear CCA solution with $p$ dimensions (canonical variates) it is useful to examine two types of a $p$ dimensional plot. The first is a plot of component loadings that describes the weights of the optimally scaled strategic statements. The second is a plot of category scores that displays the weights of the nominal segment variable quantified for each canonical variate.

Since we have only one nominal variable on the explanatory variables side, the axis of this $p$ dimensional plot can coincide with the weights of this nominal variable on the canonical variates, because the vector of weights will be orthogonal and the $p$ dimensional space can be arbitrarily rotated. The upper bound on $p$, the number of dimensions, is the minimum of the number of strategic statements and segments. However, analysts generally aim for a two-dimensional canonical solution ($p = 2$) due to the convenience of two-dimensional plots (Gifi 1990).

The square of the length of the vector from the origin of the component loadings plot to the coordinates of a given variable indicates how much of the dependent variable is explained by all canonical variates in total. The square of the projections of the vector on the axes reveals how much of the explanation is due to each canonical variate. For any two vectors, the inner product is an approximation of the correlation between the two optimally scaled variables. The inner product of the vectors for two variables on the component loadings plot indicates the degree of correlation between two strategic statements. The correlation between these vectors is positive if the angle is sharp, negative if the angle is obtuse, and zero if the arrows are perpendicular.

A plot of category scores provides the remainder of the information we need to interpret a non-linear CCA solution. Multiple treatment of the segment variable (nominal variable) results in different category scores on each canonical variate for this nominal explanatory variable. So a plot of the category scores in the space of the canonical variates allows us to visualise which segments are associated with high or low values of each canonical variate. By comparing the component loadings and category scores plots, we can then relate the segments to the strategic statements. For the convenience of the analysis of the interaction between strategic statements versus segments, we incorporate the results of component loadings (statements) and category scores (segments) into one perceptual map. Then, we use the vector representation from the technique of multidimensional scaling to portray the relationship of an individual's preferences towards specific statements.

To calculate the preference ordering, perpendicular lines can be drawn from the objects to the vector representation. Preference increases in the direction the vector is pointing. Then the preferences can be read directly from the ordering of the projections (Hair *et al.*, 1992).

## Empirical Findings

A series of graphs are presented that include overlays of the segments and the strategic statements. The latter have been grouped into the logistics strategies and each of the eight strategic foci. In total we have 16 graphs depicting the settings in Table 1. Accompanying data to assist in the interpretation of each graph is provided in Appendix B.

Table 1. The set of CCA Analyses

| Figure Number | Segment | Strategic Statements (in addition to logistics strategy) |
|---|---|---|
| 1 | Transport vs non-transport | Operations |
| 2 | Transport vs non-transport | Inventory |
| 3 | Transport vs non-transport | Alliances |
| 4 | Transport vs non-transport | Customer Focus |
| 5 | Transport vs non-transport | Supply chain integration |
| 6 | Transport vs non-transport | Performance assessment |
| 7 | Transport vs non-transport | Information technology |
| 8 | Transport vs non-transport | EDI practices |
| 9 | Global vs domestic market | Operations |
| 10 | Global vs domestic market | Inventory |
| 11 | Global vs domestic market | Alliances |
| 12 | Global vs domestic market | Customer Focus |
| 13 | Global vs domestic market | Supply chain integration |
| 14 | Global vs domestic market | Performance assessment |
| 15 | Global vs domestic market | Information technology |
| 16 | Global vs domestic market | EDI practices |

We will present the findings in two blocks – the market niche (Figures 1-8) and the geographic coverage (Figures 9-16). To ensure that the graphical outputs are fully understood, we interpret Figure 1 in some detail. The four features of particular relevance are:

the angle between each of the strategic statements as a measure of correlation,
the distance and direction of the intersection of a perpendicular line from the segment identifier to the extended vector of a strategic statement as a measure of the strength of support for a statement in each segment,
the length of the vector associated with each strategic statement as a measure of the amount of explanation by the two canonical variates and
the location of segment identifiers (or objects) relative to the origin, with higher frequencies closer to the origin.

The correlation between subsets of logistics and operation's strategies are informative. All strategic statements are positively correlated to varying degrees. We see that 'major restructuring during the past five years' of the logistics organisation and 'the presence of procedures in place to facilitate reverse logistics' are highly positively correlated. There is also a very high positive correlation between Q1 and Q45 and between Q5 and Q6. In contrast Q4 and Q6 are very weakly positively correlated (noting that a $180^{o}$ angle is zero correlation). When the preference ordering of the logistics and operations strategies is investigated, the strongest support for a specific statement varies between the transport and non-transport segments. The underlined segment identifiers indicate

the frequency of association with a particular segment. High frequency association is located closer to the origin. A particularly interesting finding is the effort by non-transport businesses during the past five years to simplify day to day logistics operations (Q6) through major logistics process re-engineering (Q5). In contrast in the transport sector major restructuring of logistics organisation over the last five years (Q4) has focussed on the facilitation of reverse logistics (Q44). There is good evidence that the logistics strategy of a business has a strong overarching synergy with the set of operations strategies.

Figures 2 to 8 can be given the same interpretative diagnostics. Within these seven graphs there are some very interesting results. In Figure 2 focusing on inventory management, there is a range of positive correlations between the statements as well as two slightly negative correlations (between Q4 and each of Q1 and Q10). Within the set of logistics strategies, the mission statement is almost totally uncorrelated with the major restructuring of the logistics organisation over the last five years. However when this is assessed between the segments, transport organisations have undergone the greatest reorganisation of the logistics task, although they have the weakest support for the statement that 'our company has a mission statement which is widely disseminated internally and shared with customers'. The message is simple and powerful, namely that reorganisation of logistics within transport organisations has not been integrated with any consideration of inventory management. This may be due to either the relative unimportance of inventory management in transport organisations or a failure to see the mutual benefits of inventory management through the logistics process. It certainly highlights a point of inquiry.
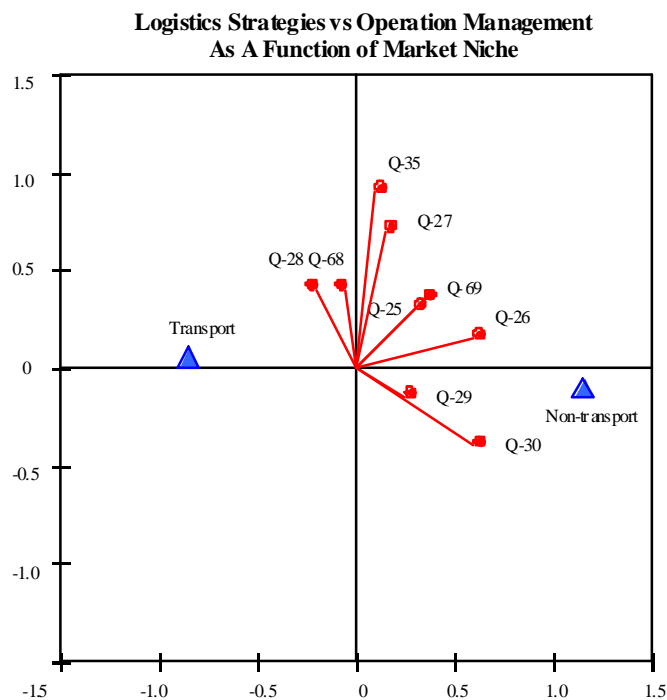


Figure 1 Attitudes towards Logistics Strategies and Operation Management versus Type of Market Niche

**Logistics Strategies vs Inventory Management
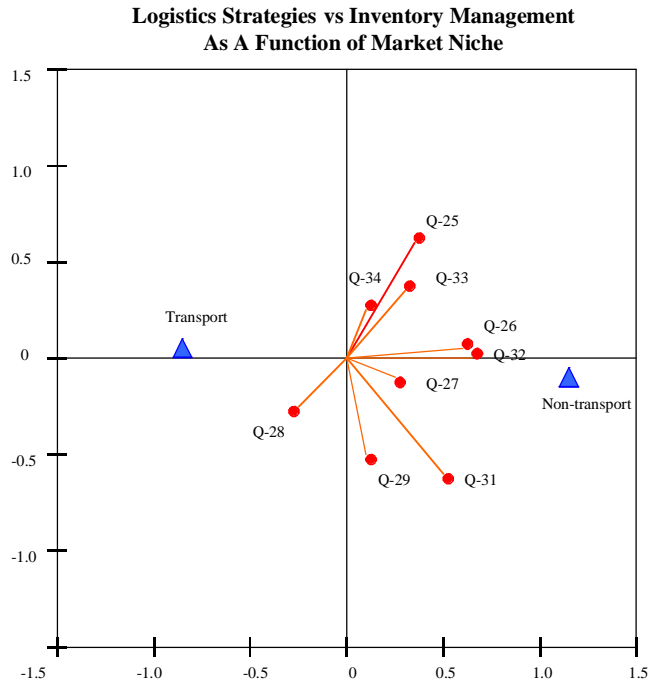As A Function of Market Niche**

Figure 2 Attitudes towards Logistics Strategies and Inventory Management versus Type of Market Niche

The customer focus profile in Figure 3 gives greater credit to transport organisations than non-transport businesses. The correlation between the general mission statement (Q1) and the seeking out of customer input for planning a logistics strategy (Q17) and accommodating customer's special requests (Q18) is impressive. This finding suggests that the supply chain has become more 'demand focused'. It appears that major restructuring of the logistics organisation over the last five years (Q4) has focussed on customers (as well as reverse logistics as per Figure 1). There is a strong relationship between logistics strategy and customer needs in transport organisations, but this link is relatively weak in non-transport businesses.
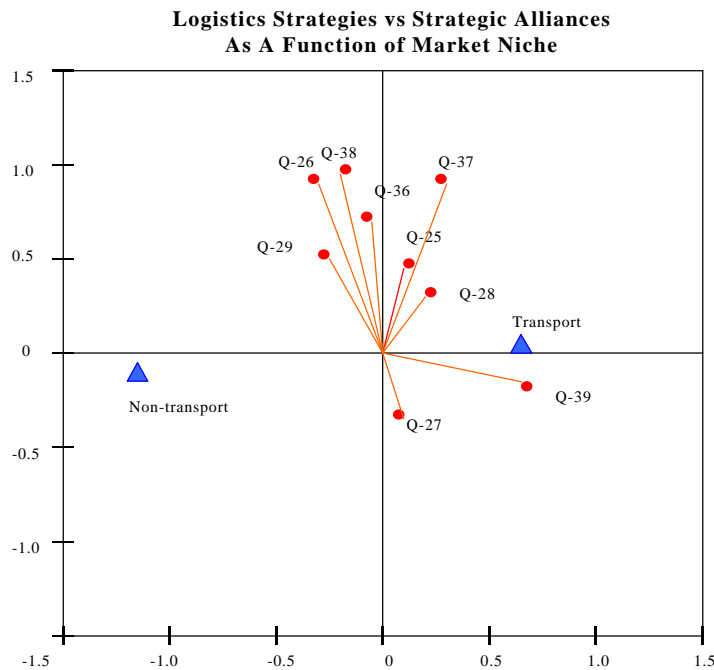
**Logistics Strategies vs Strategic Alliances
As A Function of Market Niche**

Figure 3 Attitudes towards Logistics Strategies and Strategic Alliances versus Type of Market Niche

**Logistics Strategies vs Customer Focus
As A Function of Market Niche**
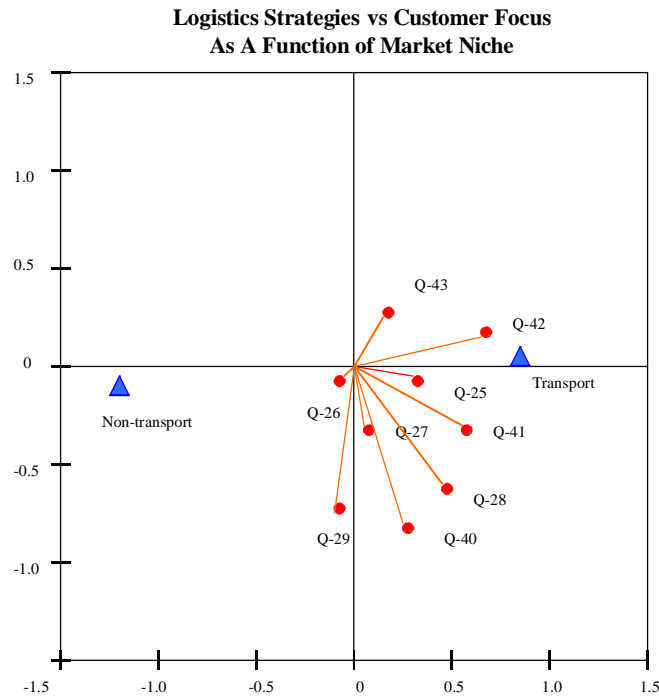


Figure 4 Attitudes towards Logistics Strategies and Customer Focus versus Type of Market Niche

Supply chain integration (Figure 5) is less systematic in its correlation structure and segment association. Most notably we see very strong agreement with Q20 and Q21 in transport businesses but very strong disagreement in non-transport businesses. The relatively strong correlation between Q20, Q21 and Q4 suggests that transport organisations have seen the value in human resource placement within the other businesses in the supply chain as part of major restructuring of the logistics task over the last five years. Non-transport businesses have not seen the benefits of this action. Indeed the support for supply chain integration as demonstrated through action is very weak indeed in the non-transport sector. Building on the findings in Figures 1-4, we can see the focus of the overarching role of a logistics strategy in transport businesses in contrast to its absence in non-transport businesses.

Performance measurement (Figure 6) is an important feature of the logistics task. Most notable is the greater focus in the transport sector on a relatively few financially-based indicators of performance extracted from an activity based costing system that have not changed a great deal over time, in contrast to the implied broadening of performance measures in the non-transport sector. In addition, the transport sector is more likely to benchmark using external business comparisons whereas non-transport businesses focus on internal comparisons. The introduction of more formal rules and procedures over the last five years in the logistics task (Q3) has strong links with more systematic ways of tracking performance (Q33-35). In contrast, non-transport businesses have not changed their rules and procedures over the last five years and tend to reject external benchmarking and even internal comparisons between departments using the same set of indicators. There is a stronger synergy between logistics strategy and business practices in transport businesses compared to their non-transport counterparts.

Briefly looking at information technology (Figure 7), there is a positive correlation structure with strong overlaps between the logistics strategy and information technology (IT) in both the transport and non-transport segments, although for different reasons. By

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far, this is the strongest synergy between logistics and other business practices. Non-transport organisations appear to have completed their logistics process re-engineering which included a major re-organisation of IT and a major focus on real time communication capability. In contrast transport organisations have lagged behind and are now slowly redesigning logistics information systems to take advantage of the new IT opportunities, such as satellite communication systems.

Finally EDI (Figure 8) features significantly in non-transport businesses through industry standards as part of a formal set of rules and procedures that direct logistics operations. EDI has a weak non-supportive link with logistics operations in the transport sector.
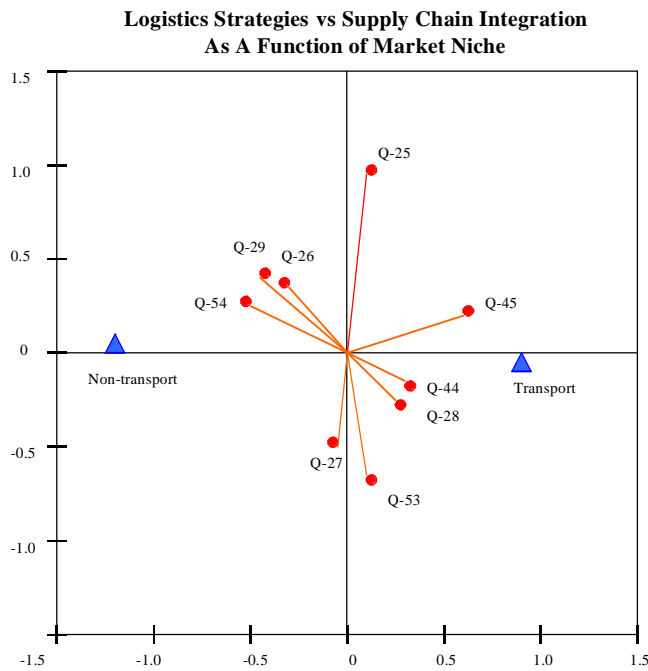


Figure 5 Attitudes towards Logistics Strategies and Supply Chain Integration versus Type of Market Niche



Figure 6 Attitudes towards Logistics Strategies and Measurement versus Type of Market Niche
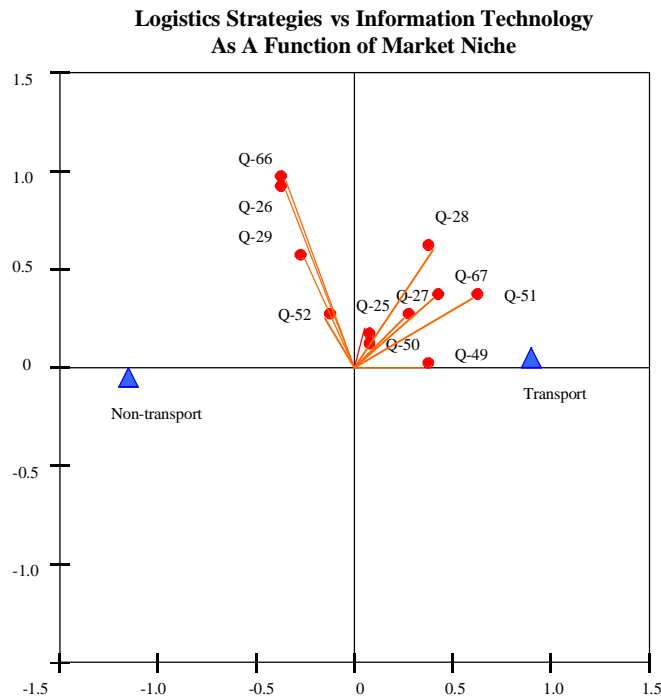
9

**Logistics Strategies vs Information Technology
As A Function of Market Niche**



Figure 7 Attitudes towards Logistics Strategies and Information Technology Management versus Type of Market Niche

**Logistics Strategies vs EDI Practices
As A Function of Market Niche**
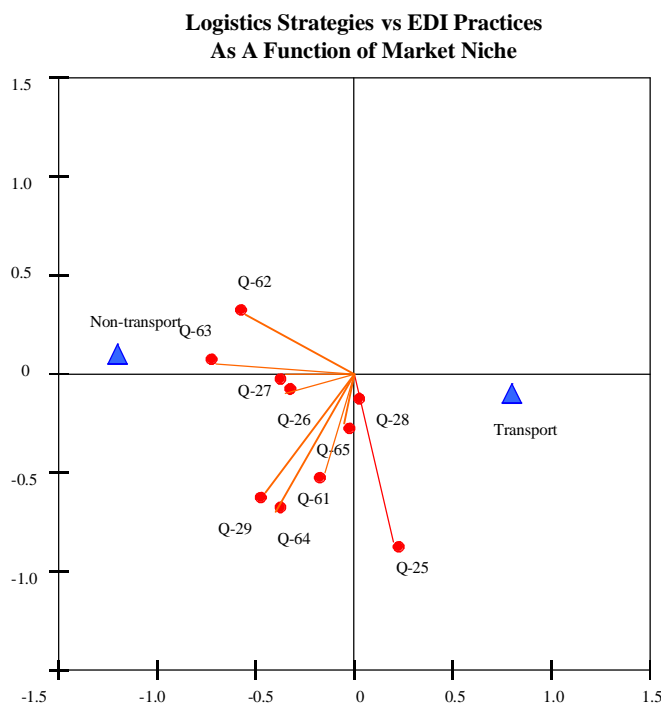


Figure 8 Attitudes towards Logistics Strategies and EDI Practices versus Type of Market Niche

The remaining eight graphs repeat the assessment of the linkages between the logistics strategy and business practices as a function of geographic coverage (global or domestic). Although the following graphs are not interpreted in the same detail, they can be employed in analysing Figures 9-16. The great appeal of the CCA method is that the strategic profile of a business can be investigated from any number of segments to reveal differences influenced by more than one segmentation criterion.

In comparing global and domestic focused enterprises, there are a number of other formative associations. The most interesting ones are presented below. First, global businesses are committed to a stronger interface between the logistics task, operations management, inventory management, strategic alliances and EDI practices than are domestic-focused businesses. While the customer focus has strong synergies with the logistics strategy, the relationship is different. Global businesses have a strong commitment to a mission statement with a strong customer focus that is widely disseminated through a formal program to measure customer satisfaction over and above internal performance statistics (Q19). Most importantly, senior logistics staff are involved in strategic planning. In contrast, domestic-focused organisations have a more flexible approach to accommodating customer's special interests (Q18) that has a similar degree of correlation with the logistics strategy and formality of rules and procedures to manage the company's logistics operations and restructuring activity. Clearly customer considerations have become the centre of attention in logistics processes.

Both global and domestic businesses see strong synergies between the logistics strategy and the requirement of supply chain integration (Figure 13). Whereas global businesses focus strongly on integration of logistics information applications and order processing, selection and shipping (Q30), domestic businesses see the importance of building relationships with other actors through their workforce expertise as well as a greater deployment of information resources deployed to logistics processes. The correlation between Q5 and Q30 is highly positive suggesting that major logistic process re-engineering over the last five years has recognised the importance of an integrated supply chain.

External benchmarking is rare in both global and domestic businesses. However, global businesses recognise the value of comparative performance indicators, albeit internal ones. The use of total cost measurement is very strongly supported in global businesses but not in domestic ones, suggesting global enterprises concentrate largely on internal financial indicators above all. However the evidence that a company's logistic process has undergone major restructuring during the past five years (Q4) is highly positively correlated with external benchmarking (Q34, 35) and closer (but weakly) aligned in terms of global business, suggesting that the dominating support for internal measurement comparisons is changing. Finally, information technology is at the centre of the global business's logistics strategy but not so in domestic enterprises, although they are all currently redesigning their logistics information systems (Q25).

The comparisons herein can help a domestic business in highlighting its relative strengths and weaknesses if it were to become a global player. For example, domestic businesses have a lot to catch up in the IT area if they are to compete in the global market with established players, although their specialised customer focus would provide potential comparative advantage. Their experience in supply chain integration through workforce assimilation is a relative strength.
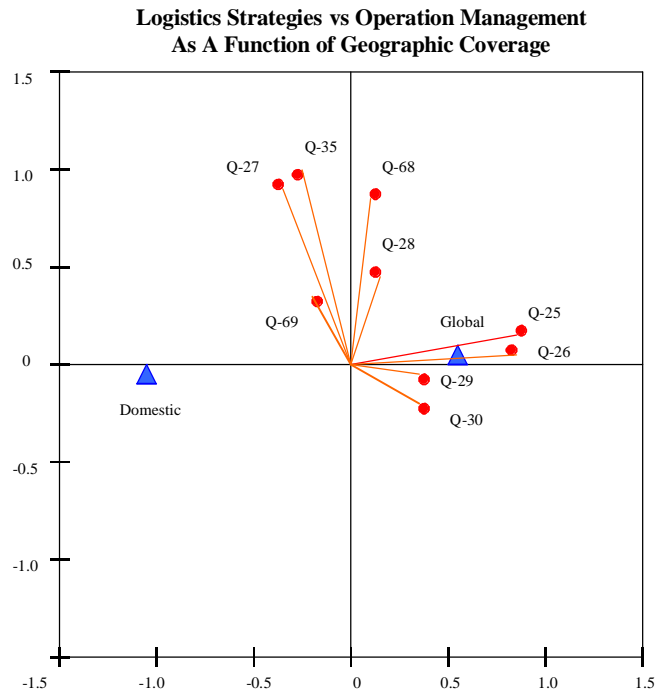
**Logistics Strategies vs Operation Management
As A Function of Geographic Coverage**

Figure 9 Attitudes towards Logistics Strategies and Operation Management versus Type of Geographical Coverage

**Logistics Strategies vs Inventory Management
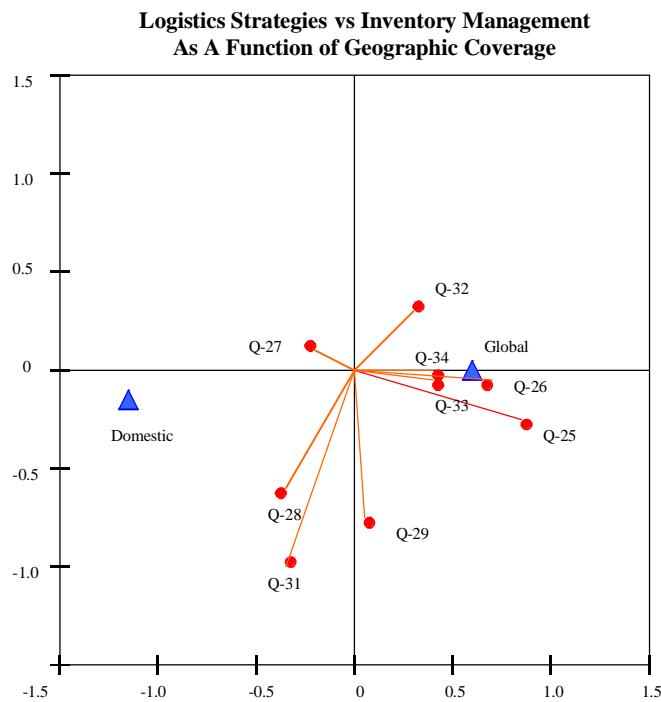As A Function of Geographic Coverage**

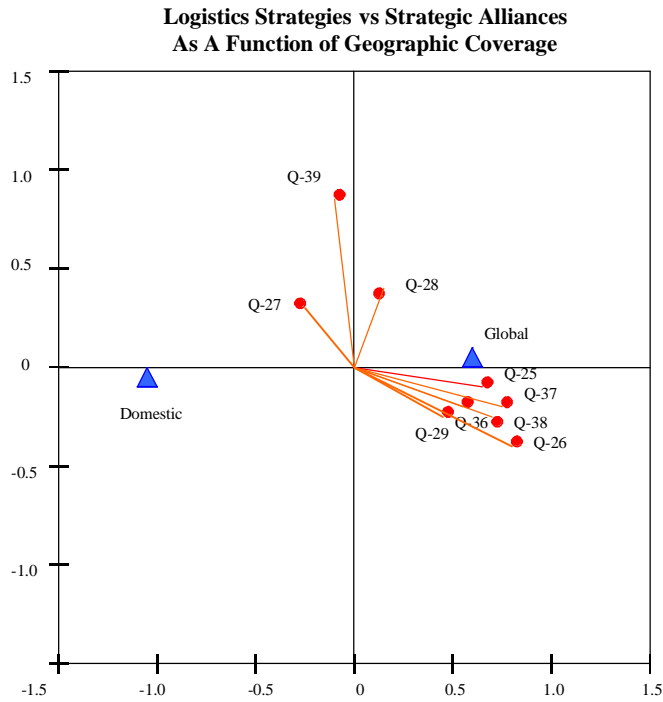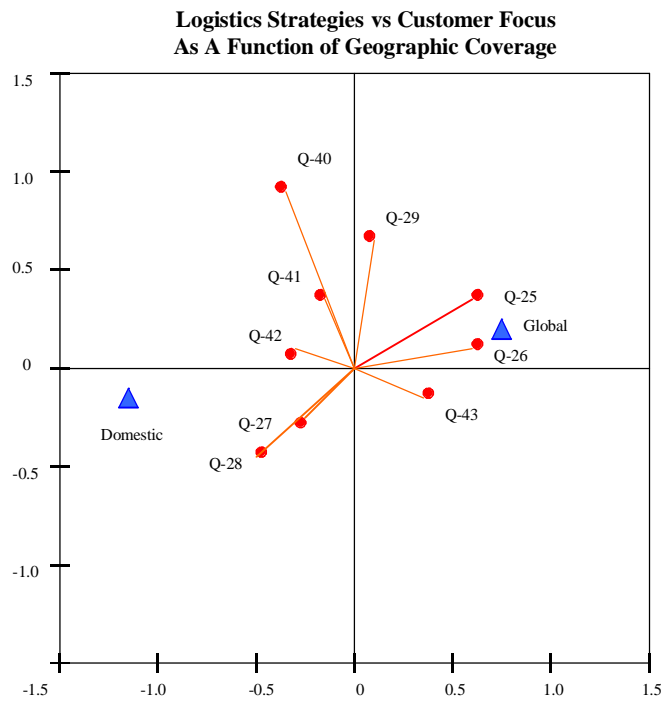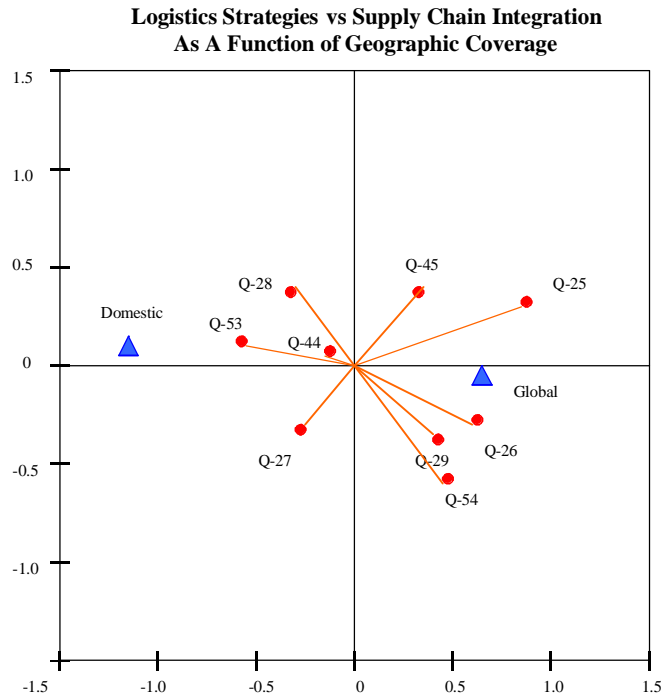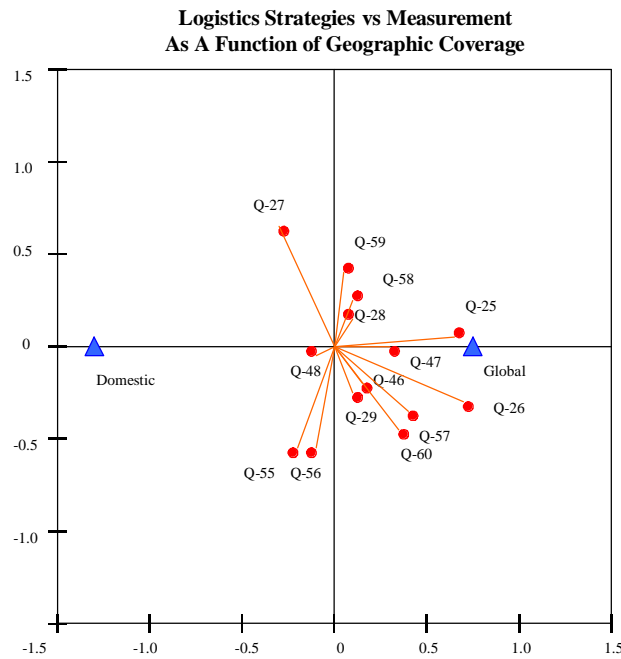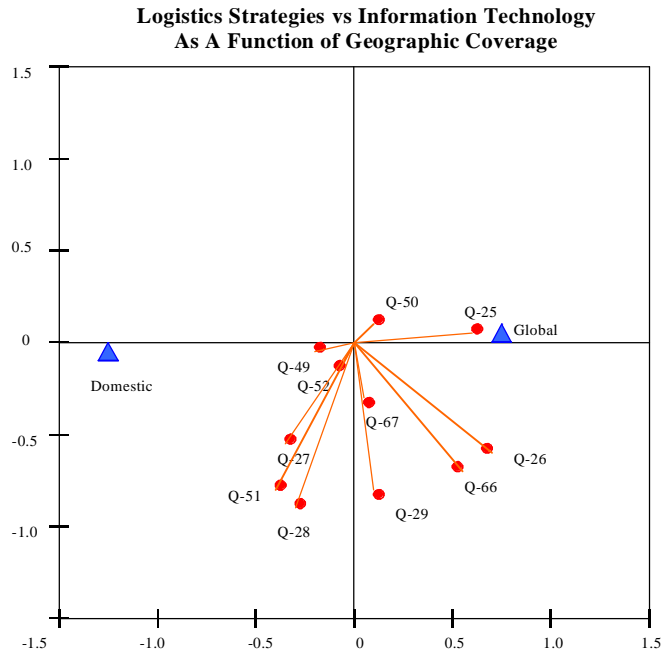Figure 10 Attitudes towards Logistics Strategies and Inventory Management versus Type of Geographical Coverage

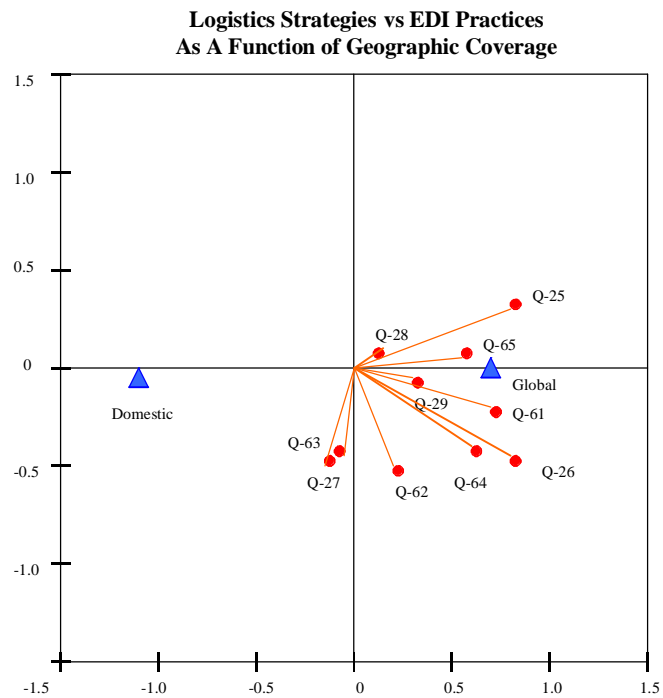Figure 11 Attitudes towards Logistics Strategies and Strategic Alliances versus Type of Geographical Coverage



Figure 12 Attitudes towards Logistics Strategies and Customer Focus versus Type of Geographical Coverage

**Logistics Strategies vs Supply Chain Integration
As A Function of Geographic Coverage**



Figure 13 Attitudes towards Logistics Strategies and Supply Chain Integration versus Type of Geographical Coverage

**Logistics Strategies vs Measurement
As A Function of Geographic Coverage**



Figure 14 Attitudes towards Logistics Strategies and Measurement versus Type of Geographical Coverage

Figure 15. Attitudes towards Logistics Strategies and Information Technology Management versus Type of Geographical Coverage



Figure 16 Attitudes towards Logistics Strategies and EDI Practices versus Type of Geographical Coverage

## Conclusions

As businesses increasingly recognise the importance of supply chain integration, they will see the contribution of the overarching role of a logistics strategy. The evidence herein suggests a strong complementarity between a logistics strategy and key business practices such as management of operations, inventory, alliances, customers, supply

chain integration, performance assessment, information technology and EDI practices. Non-linear canonical correlation analysis established the degree of concordance between strategic practices and the logistic strategy for a sample of Australian organisations involved in freight transportation. Transport businesses may be best situated to become the key players in logistics markets with their ability to manage both transportation networks and logistics processes.

These 20 organisations offered a wide array of logistics services, both directly and in association with alliance partners. Integration of supply chain activities, information systems development, and human resource management seem to offer the greatest potential to their logistics capability. The supply chain has become more 'demand focused', contrasted with a previous emphasis on operational processes. This new emphasis has implications for greater imminence with customers emphasising quality service, reducing lead times and greater responsiveness to target markets. This demand focus is also reflected in the greater recognition of finding suitably qualified staff and the importance of the human resources strategy to the logistics capability.

In addition to establishing an understanding of the synergy between a logistics strategy and logistics processes, non-linear CCA is very powerful as a strategic positioning tool. For example, it provides a competitive tool to establish how existing and potential competitors are using the logistics framework to position themselves in various market situations such as a global in contrast to a domestic player.

## Acknowledgment

## Appendix A: Questionnaire
(modified from Clinton and Closs 1997)

*To answer the following questions, you will be asked to check the box that most accurately reflects the extent to which you agree or disagree using the following key:*

**SA**: *Strongly Agree*, **A**: *Agree*; **D**: *Disagree*, **SD**: *Strongly Disagree* **DK**: *Don't Know/Indifferent*

| | | SA | A | D | SD | DK |
|---|---|---|---|---|---|---|
| 1. | Our company has a mission statement which is widely disseminated internally and shared with customers | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. | Our senior logistics officer is involved in business unit strategic planning | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3. | My company's logistics operations have more formal rules and procedures today as compared to five years ago | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4. | My company's logistics organisation has undergone major restructuring during the past five years. | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5. | My company has undergone major logistics process reengineering during the past five years. | ☐ | ☐ | ☐ | ☐ | ☐ |
| 6. | My company's routine, day-to-day logistics operations are simpler today than five years ago | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7. | On an equal volume basis, my company has inventory located at fewer sites today than five years ago | ☐ | ☐ | ☐ | ☐ | ☐ |
| 8. | On an equal volume basis, my company has less average inventory today than five years ago. | ☐ | ☐ | ☐ | ☐ | ☐ |
| 9. | My company's inventory turns have increased over the last five years. | ☐ | ☐ | ☐ | ☐ | ☐ |
| 10. | My company has a clear policy regarding cost of capital for inventory decisions. | ☐ | ☐ | ☐ | ☐ | ☐ |
| 11. | My company utilises more strategies to postpone movement and final product configuration today than five years ago | ☐ | ☐ | ☐ | ☐ | ☐ |
| 12. | My company has clear guidelines and procedures for creating alliances | ☐ | ☐ | ☐ | ☐ | ☐ |
| 13. | My company requires a written agreement or contract to be an integral part of all alliances. | ☐ | ☐ | ☐ | ☐ | ☐ |
| 14. | My company has clear guidelines and procedures for monitoring alliances | ☐ | ☐ | ☐ | ☐ | ☐ |
| 15. | My company has established logistics alliances that operate under the principles of shared rewards and risks. | ☐ | ☐ | ☐ | ☐ | ☐ |
| 16. | My company has specific logistics strategies to deal with distinct customers | ☐ | ☐ | ☐ | ☐ | ☐ |
| 17. | My company regularly invites customer input for planning logistics strategy. | ☐ | ☐ | ☐ | ☐ | ☐ |
| 18. | My company is flexible in terms of accommodating customers' special requests. | ☐ | ☐ | ☐ | ☐ | ☐ |
| 19. | My company utilises a formal program to measure customer satisfaction over and above internal performance statistics. | ☐ | ☐ | ☐ | ☐ | ☐ |
| 20. | To facilitate operations, employees of other companies in the supply chain are located at and work in my company's business. | ☐ | ☐ | ☐ | ☐ | ☐ |
| 21. | To facilitate operations, my company's employees are located at and work within businesses owned by other members of the supply chain. | ☐ | ☐ | ☐ | ☐ | ☐ |
| 22. | My company uses activity based costing | ☐ | ☐ | ☐ | ☐ | ☐ |
| 23. | Senior logistics management in my company makes decisions using total cost measurement. | ☐ | ☐ | ☐ | ☐ | ☐ |
| 24. | The cost of capital used for inventory decisions is the same as the cost of capital used for other investment decisions | ☐ | ☐ | ☐ | ☐ | ☐ |

25. We are currently redesigning our logistics information system.

26. My company is making significant investments in new information systems.

27. My company's logistics information systems capability is better today than five years ago.

28. My company's current logistics information systems are satisfactory in terms of meeting our requirements.

29. Relative to other areas within my company, logistics' share of information system resources has increased over the last five years.

30. Logistics information applications for order processing, selection and shipping within my company are highly integrated.

31. My company has improved overall performance measurement capabilities over the past five years.

32. The number of performance measures tracked by my company is higher today than five years ago.

33. My company uses equivalent performance measures for all departments.

34. My company benchmarks its performance against other organisations in similar industries

35. My company benchmarks its performance against other organisations performing similar tasks in different industries

36. My company has consistent interdepartmental operating goals.

37. Within my company, the percentage of transactions completed using EDI has increased over the last five years.

38. My company utilises industry standards rather than proprietary standards for the majority of our EDI transmissions.

39. My company utilises industry standards rather than proprietary standards for the majority of our bar codes.

40. My company views bar code technologies as essential to increase our competitiveness.

41. My company views EDI applications as essential to increase our competitiveness.

42. My company views real time communication capability as essential to increase our competitiveness.

43. My company views satellite communication systems as essential to increase our competitiveness.

44. My company has procedures in place to facilitate reverse logistics

45. Environmental considerations such as returnable containers and alternative fuels significantly impact operations at my company

# Appendix B

Note: (Most Outstanding Results are underlined)

Table 1: Attitudes towards Logistics Strategies and Operation Management versus Type of Market Niche

| Strategies | Initiatives | Cluster | | | | strongest support | weakest support |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | | |
| Logistics | Q25: our company has a mission statement which is widely disseminated internally and shared with customers. | * | | | | Non transport | Transport |
| | Q26: our senior logistics officer is involved in business unit strategic planning. | * | | | | Non transport | Transport |
| | Q27: my company's logistics operations have more formal rules and procedures today as compared to five years ago. | | * | | | Transport | Non transport |
| | Q28: my company's logistics organisation has undergone major restructuring during the past five years. | | | * | | Transport | Non transport |
| | Q29: my company has undergone major logistics process reengineering during the past five years. | | | | * | Non transport | Transport |
| Operation | Q30: my company's routine, day to day logistics operations are simpler today than five years ago. | | | | * | Non transport | Transport |
| | Q35: my company utilises more strategies to postpone movement and final product configuration today than five years ago. | | * | | | Transport | Non transport |
| | Q68: my company has procedures in place to facilitate reverse logistics | | | * | | Transport | Non transport |
| | Q69: environmental considerations significantly impact operations at my company. | * | | | | Non transport | Transport |

Table 2: Attitudes towards Logistics Strategies and Inventory Management versus Type of Market Niche

| Strategies | Initiatives | Cluster | | | | strongest support | weakest support |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | | |
| Logistics | Q25: our company has a mission statement which is widely disseminated internally and shared with customers. | * | | | | Non transport | Transport |
| | Q26: our senior logistics officer is involved in business unit strategic planning. | | * | | | Non transport | Transport |
| | Q27: my company's logistics operations have more formal rules and procedures today as compared to five years ago. | | | * | | Non transport | Transport |
| | Q28: my company's logistics organisation has undergone major restructuring during the past five years. | | | | * | Transport | Non transport |
| | Q29: my company has undergone major logistics process reengineering during the past five years. | | | * | | Non transport | Transport |
| Inventory | Q31: on an equal volume basis, my company has inventory located at fewer sites today than five years ago. | | | * | | Non transport | Transport |
| | Q32: on an equal volume basis, my company has less average inventory today than five years ago. | | * | | | Non transport | Transport |
| | Q33: my company's inventory turns have increased over the last five years. | * | | | | Non transport | Transport |
| | Q34: my company has a clear policy regarding cost of capital for inventory decisions. | * | | | | Non transport | Transport |

Table 3: Attitudes towards Logistics Strategies and Strategic Alliances versus Type of Market Niche

| Strategies | Initiatives | Cluster 1 | 2 | 3 | 4 | strongest support | weakest support |
|---|---|---|---|---|---|---|---|
| Logistics | Q25: our company has a mission statement which is widely disseminated internally and shared with customers. | * | | | | Transport | Non transport |
| | Q26: our senior logistics officer is involved in business unit strategic planning. | | * | | | Non transport | Transport |
| | Q27: my companyís logistics operations have more formal rules and procedures today as compared to five years ago. | | | * | | Transport | Non transport |
| | Q28: my companyís logistics organisation has undergone major restructuring during the past five years. | * | | | | Transport | Non transport |
| | Q29: my company has undergone major logistics process reengineering during the past five years. | | * | | | Non transport | Transport |
| Alliances | Q36: my company has clear guidelines and procedures for creating alliances | | * | | | Non transport | Transport |
| | Q37: my company requires a written agreement or contract to be an integral part of all alliances | * | | | | Transport | Non transport |
| | Q38: my company has clear guidelines and procedures for monitoring alliances | | * | | | Non transport | Transport |
| | Q39: my company has established logistics alliances that operate under the principles of shared rewards and risks. | | | | * | Transport | Non transport |

Table 4: Attitudes towards Logistics Strategies and Customer Focus versus Type of Market Niche

| Strategies | Initiatives | Cluster 1 | 2 | 3 | 4 | strongest support | weakest support |
|---|---|---|---|---|---|---|---|
| Logistics | Q25: our company has a mission statement which is widely disseminated internally and shared with customers. | * | | | | Transport | Non transport |
| | Q26: our senior logistics officer is involved in business unit strategic planning. | | * | | | Non transport | Transport |
| | Q27: my companyís logistics operations have more formal rules and procedures today as compared to five years ago. | | | * | | Transport | Non transport |
| | Q28: my companyís logistics organisation has undergone major restructuring during the past five years. | * | | | | Transport | Non transport |
| | Q29: my company has undergone major logistics process reengineering during the past five years. | | * | | | Non transport | Transport |
| Customer Focus | Q40: my company has specific logistics strategies to deal with distinct customers. | | | * | | Transport | Non transport |
| | Q41: my company regularly invites customer input for planning logistics strategy. | * | | | | Transport | Non transport |
| | Q42: my company is flexible in terms of accommodating customer's special requests. | * | | | | Transport | Non transport |
| | Q43: my company utilises a formal program to measure customer satisfaction over and above internal performance statistics. | | | | * | Transport | Non transport |

Table 5: Attitudes towards Logistics Strategies and Supply Chain Integration versus Type of Market Niche

| Strategies | Initiatives | Cluster | | | | strongest support | weakest support |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | | |
| Logistics | Q25: our company has a mission statement which is widely disseminated internally and shared with customers. | * | | | | Non transport | Transport |
| | Q26: our senior logistics officer is involved in business unit strategic planning. | | * | | | Non transport | Transport |
| | Q27: my companyís logistics operations have more formal rules and procedures today as compared to five years ago. | | | * | | Transport | Non transport |
| | Q28: my companyís logistics organisation has undergone major restructuring during the past five years. | | | | * | Transport | Non transport |
| | Q29: my company has undergone major logistics process reengineering during the past five years. | | * | | | Non transport | Transport |
| Supply chain integration | Q44: To facilitate operations, employees of other companies in the supply chain are located at and work in my companyís business. | | | | * | Transport | Non transport |
| | Q45: To facilitate operations, my companyís employees are located at and work within businesses owned by other members of the supply chain. | | | | * | Transport | Non transport |
| | Q53: relative to other areas within my company, logistics share of information system resources has increased over the last five years. | | | * | | Transport | Non transport |
| | Q54: logistics information applications for order processing, select ion and shipping within my company are highly integrated. | * | | | | Non transport | Transport |

Table 6: Attitudes towards Logistics Strategies and Measurement versus Type of Market Niche

| Strategies | Initiatives | Cluster | | | | strongest support | weakest support |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | | |
| Logistics | Q25: our company has a mission statement which is widely disseminated internally and shared with customers. | * | | | | Transport | Non transport |
| | Q26: our senior logistics officer is involved in business unit strategic planning. | | * | | | Non transport | Transport |
| | Q27: my companyís logistics operations have more formal rules and procedures today as compared to five years ago. | | | * | | Transport | Non transport |
| | Q28: my companyís logistics organisation has undergone major restructuring during the past five years. | * | | | | Transport | Non transport |
| | Q29: my company has undergone major logistics process reengineering during the past five years. | | * | | | Non transport | Transport |
| Measurement | Q46: my company uses activity based costing. | * | | | | Transport | Non transport |
| | Q47: senior logistics management in my company makes decisions using total cost measurement. | | * | | | Non transport | Transport |
| | Q48: cost of capital used for inventory decisions is the same as the cost of capital used for other investment decisions. | | | * | | Transport | Non transport |
| | Q55: my company has improved overall performance measurement capabilities over the past five years. | | | | * | Non transport | Transport |
| | Q56: the number of performance measures tracked by my company is higher today than five years ago. | | | | * | Non transport | Transport |
| | Q57: my company uses comparable performance measures for all departments. | | * | | | Transport | Non transport |
| | Q58: my company benchmarks its performance against other organisations in similar industries. | | * | | | Transport | Non transport |
| | Q59: my company benchmarks its performance against other organisations performing similar tasks in different industries. | | * | | | Transport | Non transport |
| | Q60: my company has consistent interdepartmental operating goals. | | * | | | Non transport | Transport |

Table 7: Attitudes towards Logistics Strategies and Information Technology Management versus Type of Market Niche

| Strategies | Initiatives | Cluster | | | | strongest support | weakest support |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | | |
| Logistics | Q25: our company has a mission statement which is widely disseminated internally and shared with customers. | * | | | | Transport | Non transport |
| | Q26: our senior logistics officer is involved in business unit strategic planning. | | * | | | Non transport | Transport |
| | Q27: my company's logistics operations have more formal rules and procedures today as compared to five years ago. | | | * | | Transport | Non transport |
| | Q28: my company's logistics organisation has undergone major restructuring during the past five years. | * | | | | Transport | Non transport |
| | Q29: my company has undergone major logistics process reengineering during the past five years. | | * | | | Non transport | Transport |
| IT management | Q49: we are currently redesigning our logistics information system. | | | * | | Transport | Non transport |
| | Q50: my company is making significant investments in new information systems. | * | | | | Transport | Non transport |
| | Q51: my company's logistics information systems capability is better today than five years ago. | | | * | | Transport | Non transport |
| | Q52: my company's current logistics information systems are satisfactory in terms of meeting our requirements. | | * | | | Non transport | Transport |
| | Q66: my company views real time communication capability as essential to increase our competitiveness. | | * | | | Non transport | Transport |
| | Q67: my company views satellite communication systems as essential to increase our competitiveness. | | | * | | Transport | Non transport |

Table 8: Attitudes towards Logistics Strategies and EDI Practices versus Type of Market Niche

| Strategies | Initiatives | Cluster | | | | strongest support | weakest support |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | | |
| Logistics | Q25: our company has a mission statement which is widely disseminated internally and shared with customers. | * | | | | Transport | Non transport |
| | Q26: our senior logistics officer is involved in business unit strategic planning. | | * | | | Non transport | Transport |
| | Q27: my company's logistics operations have more formal rules and procedures today as compared to five years ago. | | * | | | Non transport | Transport |
| | Q28: my company's logistics organisation has undergone major restructuring during the past five years. | * | | | | Transport | Non transport |
| | Q29: my company has undergone major logistics process reengineering during the past five years. | | | * | | Non transport | Transport |
| EDI practices | Q61: within my company, the percentage of transactions completed using EDI has increased over the last five years. | | | * | | Non transport | Transport |
| | Q62: my company utilises industry standards rather than proprietary standards for the majority of our EDI transmissions. | | * | | | Non transport | Transport |
| | Q63: my company utilises industry standards rather than proprietary standards for the majority of our bar codes. | | * | | | Non transport | Transport |
| | Q64: my company views bar code technologies as essential to increase our competitiveness. | | | * | | Non transport | Transport |
| | Q65: my company views EDI applications as essential to increase our competitiveness. | | | * | | Non transport | Transport |

Table 9: Attitudes towards Logistics Strategies and Operation Management versus Type of Geographical Coverage

| Strategies | Initiatives | Cluster | | | | strongest support | weakest support |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | | |
| Logistics | Q25: our company has a mission statement which is widely disseminated internally and shared with customers. | * | | | | Global | Domestic |
| | Q26: our senior logistics officer is involved in business unit strategic planning. | * | | | | Global | Domestic |
| | Q27: my companyís logistics operations have more formal rules and procedures today as compared to five years ago. | | * | | | Domestic | Global |
| | Q28: my companyís logistics organisation has undergone major restructuring during the past five years. | | | * | | Global | Domestic |
| | Q29: my company has undergone major logistics process reengineering during the past five years. | * | | | | Global | Domestic |
| Operation | Q30: my companyís routine, day to day logistics operations are simpler today than five years ago. | * | | | | Global | Domestic |
| | Q35: my company utilises more strategic to postpone movement and final product configuration today than five years ago. | | * | | | Domestic | Global |
| | Q68: my company has procedures in place to facilitate reverse logistics | | | * | | Global | Domestic |
| | Q69: environmental considerations significantly impact operations at my company. | | * | | | Domestic | Global |

Table 10: Attitudes towards Logistics Strategies and Inventory Management versus Type of Geographical Coverage

| Strategies | Initiatives | Cluster | | | | strongest support | weakest support |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | | |
| Logistics | Q25: our company has a mission statement which is widely disseminated internally and shared with customers. | * | | | | Global | Domestic |
| | Q26: our senior logistics officer is involved in business unit strategic planning. | * | | | | Global | Domestic |
| | Q27: my companyís logistics operations have more formal rules and procedures today as compared to five years ago. | | * | | | Domestic | Global |
| | Q28: my companyís logistics organisation has undergone major restructuring during the past five years. | | | * | | Domestic | Global |
| | Q29: my company has undergone major logistics process reengineering during the past five years. | | | * | | Domestic | Global |
| Inventory | Q31: on an equal volume basis, my company has inventory located at fewer sites today than five years ago. | | | * | | Domestic | Global |
| | Q32: on an equal volume basis, my company has less average inventory today than five years ago. | | | | * | Global | Domestic |
| | Q33: my companyís inventory turns have increased over the last five years. | * | | | | Global | Domestic |
| | Q34: my company has a clear policy regarding cost of capital for inventory decisions. | * | | | | Global | Domestic |

Table 11: Attitudes towards Logistics Strategies and Strategic Alliances versus Type of Geographical Coverage

| Strategies | Initiatives | Cluster | | | | strongest support | weakest support |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | | |
| Logistics | Q25: our company has a mission statement which is widely disseminated internally and shared with customers. | * | | | | Global | Domestic |
| | Q26: our senior logistics officer is involved in business unit strategic planning. | * | | | | Global | Domestic |
| | Q27: my companyís logistics operations have more formal rules and procedures today as compared to five years ago. | | | * | | Domestic | Global |
| | Q28: my companyís logistics organisation has undergone major restructuring during the past five years. | | | | * | Global | Domestic |
| | Q29: my company has undergone major logistics process reengineering during the past five years. | * | | | | Global | Domestic |
| Alliances | Q36: my company has clear guidelines and procedures for creating alliances | * | | | | Global | Domestic |
| | Q37: my company requires a written agreement or contract to be an integral part of all alliances | * | | | | Global | Domestic |
| | Q38: my company has clear guidelines and procedures for monitoring alliances | * | | | | Global | Domestic |
| | Q39: my company has established logistics alliances that operate under the principles of shared rewards and risks. | | | | * | Domestic | Global |

Table 12: Attitudes towards Logistics Strategies and Customer Focus versus Type of Geographical Coverage

| Strategies | Initiatives | Cluster | | | | strongest support | weakest support |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | | |
| Logistics | Q25: our company has a mission statement which is widely disseminated internally and shared with customers. | * | | | | Global | Domestic |
| | Q26: our senior logistics officer is involved in business unit strategic planning. | * | | | | Global | Domestic |
| | Q27: my companyís logistics operations have more formal rules and procedures today as compared to five years ago. | | | * | | Domestic | Global |
| | Q28: my companyís logistics organisation has undergone major restructuring during the past five years. | | | * | | Domestic | Global |
| | Q29: my company has undergone major logistics process reengineering during the past five years. | | | * | | Global | Domestic |
| Customer Focus | Q40: my company has specific logistics strategies to deal with distinct customers. | | | | * | Domestic | Global |
| | Q41: my company regularly invites customer input for planning logistics strategy. | | | | * | Domestic | Global |
| | Q42: my company is flexible in terms of accommodating customer's special requests. | | | * | | Domestic | Global |
| | Q43: my company utilises a formal program to measure customer satisfaction over and above internal performance statistics. | * | | | | Global | Domestic |

Table 13:  Attitudes towards Logistics Strategies and Supply Chain Integration versus Type of Geographical Coverage

| Strategies | Initiatives | Cluster | | | | strongest support | weakest support |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | | |
| Logistics | Q25: our company has a mission statement which is widely disseminated internally and shared with customers. | * | | | | Global | Domestic |
| | Q26: our senior logistics officer is involved in business unit strategic planning. | * | | | | Global | Domestic |
| | Q27: my companyís logistics operations have more formal rules and procedures today as compared to five years ago. | | * | | | Domestic | Global |
| | Q28: my companyís logistics organisation has undergone major restructuring during the past five years. | | | * | | Domestic | Global |
| | Q29: my company has undergone major logistics process reengineering during the past five years. | * | | | | Global | Domestic |
| Supply chain integration | Q44: To facilitate operations, employees of other companies in the supply chain are located at and work in my companyís business. | | | * | | Domestic | Global |
| | Q45: To facilitate operations, my companyís employees are located at and work within businesses owned by other members of the supply chain. | | | | * | Global | Domestic |
| | Q53: relative to other areas within my company, logistics share of information system resources has increased over the last five years. | | | * | | Domestic | Global |
| | Q54: logistics information applications for order processing, select on and shipping within my company are highly integrated. | * | | | | Global | Domestic |

Table 14: Attitudes towards Logistics Strategies and Measurement versus Type of Geographical Coverage

| Strategies | Initiatives | Cluster | | | | | | strongest support | weakest support |
|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | | |
| Logistics | Q25: our company has a mission statement which is widely disseminated internally and shared with customers. | * | | | | | | Global | Domestic |
| | Q26: our senior logistics officer is involved in business unit strategic planning. | * | | | | | | Global | Domestic |
| | Q27: my companyís logistics operations have more formal rules and procedures today as compared to five years ago. | | * | | | | | Domestic | Global |
| | Q28: my companyís logistics organisation has undergone major restructuring during the past five years. | | | * | | | | Global | Domestic |
| | Q29: my company has undergone major logistics process reengineering during the past five years. | | | | * | | | Global | Domestic |
| Measurement | Q46: my company uses activity based costing. | | | | | * | | Global | Domestic |
| | Q47: senior logistics management in my company makes decisions using total cost measurement. | * | | | | | | Global | Domestic |
| | Q48: cost of capital used for inventory decisions is the same as the cost of capital used for other investment decisions. | | | | * | | | Domestic | Global |
| | Q55: my company has improved overall performance measurement capabilities over the past five years. | | | | | | * | Domestic | Global |
| | Q56: the number of performance measures tracked by my company is higher today than five years ago. | | | | | | * | Domestic | Global |
| | Q57: my company uses comparable performance measures for all departments. | * | | | | | | Global | Domestic |
| | Q58: my company benchmarks its performance against other organisations in similar industries. | | | * | | | | Global | Domestic |
| | Q59: my company benchmarks its performance against other organisations performing similar tasks in different industries. | | | * | | | | Global | Domestic |
| | Q60: my company has consistent interdepartmental operating goals. | * | | | | | | Global | Domestic |

Table 15: Attitudes towards Logistics Strategies and Information Technology Management versus Type of Geographical Coverage

| Strategies | Initiatives | Cluster | | | | strongest support | weakest support |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | | |
| Logistics | Q25: our company has a mission statement which is widely disseminated internally and shared with customers. | * | | | | Global | Domestic |
| | Q26: our senior logistics officer is involved in business unit strategic planning. | * | | | | Global | Domestic |
| | Q27: my companyís logistics operations have more formal rules and procedures today as compared to five years ago. | | * | | | Domestic | Global |
| | Q28: my companyís logistics organisation has undergone major restructuring during the past five years. | | * | | | Domestic | Global |
| | Q29: my company has undergone major logistics process reengineering during the past five years. | | | * | | Global | Domestic |
| IT management | Q49: we are currently redesigning our logistics information system. | | | | * | Domestic | Global |
| | Q50: my company is making significant investments in new information systems. | * | | | | Global | Domestic |
| | Q51: my companyís logistics information systems capability is better today than five years ago. | | * | | | Domestic | Global |
| | Q52: my companyís current logistics information systems are satisfactory in terms of meeting our requirements. | | * | | | Domestic | Global |
| | Q66: my company views real time communication capability as essential to increase our competitiveness. | * | | | | Global | Domestic |
| | Q67: my company views satellite communication systems as essential to increase our competitiveness. | | | * | | Global | Domestic |

Table 16: Attitudes towards Logistics Strategies and EDI Practices versus Type of Geographical Coverage

| Strategies | Initiatives | Cluster | | | | strongest support | weakest support |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | | |
| Logistics | Q25: our company has a mission statement which is widely disseminated internally and shared with customers. | * | | | | Global | Domestic |
| | Q26: our senior logistics officer is involved in business unit strategic planning. | * | | | | Global | Domestic |
| | Q27: my companyís logistics operations have more formal rules and procedures today as compared to five years ago. | | * | | | Domestic | Global |
| | Q28: my companyís logistics organisation has undergone major restructuring during the past five years. | * | | | | Global | Domestic |
| | Q29: my company has undergone major logistics process reengineering during the past five years. | * | | | | Global | Domestic |
| EDI practices | Q61: within my company, the percentage of transactions completed using EDI has increased over the last five years. | * | | | | Global | Domestic |
| | Q62: my company utilises industry standards rather than proprietary standards for the majority of our EDI transmissions. | | | * | | Global | Domestic |
| | Q63: my company utilises industry standards rather than proprietary standards for the majority of our bar codes. | | * | | | Domestic | Global |
| | Q64: my company views bar code technologies as essential to increase our competitiveness. | * | | | | Global | Domestic |
| | Q65: my company views EDI applications as essential to increase our competitiveness. | * | | | | Global | Domestic |

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