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*The Importance of Strategic
Alliances in Intermodal Transport,*

Theoretical implications and an empirical pre-evaluation
of the phenomena in the South-Eastern Finland

Table of Contents

1. FOREWORD	2
2. INTRODUCTION	2
3. RECIPROCAL INTERMODAL TRANSPORT	3
3.1 INTERMODAL TRANSPORT CONCEPT AND RELATED TERMINOLOGY	6
3.1.1 <i>Multimodal transport</i>	6
3.1.2 <i>Combined transport</i>	7
3.1.3 <i>One-stop shopping and IFF</i>	7
3.2 INTERMODAL TRANSPORT SYSTEMS	8
3.3 CHAIN APPROACH TO INTERMODAL TRANSPORT	9
3.4 EXTENDED CHAIN APPROACH TO INTERMODAL TRANSPORT	11
4. INTERMODALITY IN FINLAND	12
5. THE CONCEPT OF STRATEGIC ALLIANCE.....	14
5.1 DEFINITION OF STRATEGIC ALLIANCE.....	15
5.2 THE FORMS AND STABILITY OF INTER-FIRM RELATIONSHIPS	18
5.3 COMPARING TRADITIONAL RELATIONSHIPS AND PARTNERSHIPS.....	20
5.4 PARTNERSHIP DRIVERS	21
6. STRATEGIC ALLIANCE APPROACH TO INTERMODAL TRANSPORT, A PRELIMINARY CASE STUDY	24
6.1 MOTIVES AND METHODS	25
6.2 RECOGNITION OF ALLIANCES AND VALIDATION OF ALLIANCE APPROACH	26
6.3 ALLIANCE STRIVEN ATTITUDE AND BEHAVIOUR OF THE OPERATORS	28
7. CONCLUSIONS	33

1. FOREWORD

This research report presents some of the results produced in the research project "Intermodal Transports", 1999-2001, belonging in the research of the national competence centre of logistics, at the research laboratory of Logistics of LUT. The academic research in the project is financially supported by the Academy of Finland in the national research project KETJU, and the practical applications are funded in the EU/Interreg program by Ministry of Education and Regional Councils of Etelä-Karjala, Etelä-Savo and Kymenlaakso.

2. INTRODUCTION

Implementation of strong operational relationships, formation of joint development projects and integration of various transport operations with joint information systems have been common phenomenon in transport companies during the last decade. Especially in the intermodal transport sector, the consideration of other modes of transport and operators are becoming an essential precondition in order to gain competitiveness and to fulfil shippers' requirements on costs and quality of the transports. In intermodal transport, the strong relationships between companies are necessary in creating an efficient and responsive transport service throughout the international transport chain. The managers of IM companies have recognised that strong relationships among the operators are a prerequisite both in creating competitiveness and in increasing market share in the business. From the scientific point of view, since transport business already is traditionally influenced by strong, long-term relationships, intermodal transport could be a potential playground in implementing these into partnerships. Transport business has been mainly considered as "Third Party" in logistics, and alliances in constructing intermodal transport as a transport business ideas have not been under impetuous consideration in former research on logistics and transport.

This purpose of this study is to provide a literature review about the basics of intermodal transport and strategic alliance concepts for the managers of transport companies. The study attempts to combine research results so that the managers can use them in the evaluation of potential strategic alliances from the view of their company's own strategies.

The hypothesis in this preliminary case study relies also on a practical study of ten case companies. These case studies consist of intensive interviews in the companies concerning the recognition of strategic alliance and the validation of their adaptability into intermodal transport. In addition, operators' attitude for strategic alliances and their alliance formation behaviour up to the present was also investigated.

As a result in this study, a development framework for the process of strengthening the existing relationships of their company is also proposed.

3. RECIPROCAL INTERMODAL TRANSPORT

ECMT (European Conference of Ministers of Transport) defines intermodal transport as "the movement of goods in one and the same loading unit or vehicle which uses successively several modes of transport without handling of the goods themselves in changing modes".

According to Muller (1996, p. 2), intermodal transport involves the transfer of a single cargo unit with vehicles of different transport modes, where one single operator usually organises the whole intermodal transport chain. Due to the simplified definition of Holtgen's (1995, p. 49), intermodalism is presented as the movement of cargo from shipper to consignee by at least two modes of transport under one single rate. From shippers' perspective, the general purpose of intermodal transport is to integrate the advantages of different modes of transport as a superior integrated transport service.

Bukold (1993, p. 24) has stated that intermodal transport is not only the addition of transport modes together, but instead a mode in its own rights, with specific structures of organisation and production. D'Este's (1996, p.4) approach to intermodal transport is that IM is a technical, legal, commercial and management framework for moving goods door-to-door utilising more than one mode of transport. D'Este describes the nature of intermodalism as *rather a service than a technology* drawing attention to the "soft" aspects of delivery that facilitate the technology of multi-modal system.

Intermodal transport system utilises the advantages of standardised *ITU:s* (intermodal transport units) with the purpose of reducing risks and increasing effectiveness in transshipments with different modes of transport (Woxenius, 1998, Holtgen, 1995). *ITU:s* are generally designed to be applicable as cargo units for each common transport mode, i.e. road, rail and water transport. Typical *ITU:s* utilised with intermodal transport systems are containers, swap-bodies and semi-trailers. Of these, the 20- and 40- foot containers are the most common ones. The general operational practice for intermodal transport with the reference to container usage is described by Duin and Ham (1998, p. 4051-4052) as the following process:

"A carrier picks up an empty container from an empty depot by truck, stuffs the container at the shipper's location, and brings the container to the nearest terminal. The terminal operator receives this container, stacks the container temporarily and transships the container on the scheduled train or barge service. On fixed departure-times a train or barge departs for a long distance trip to another terminal. The container is temporarily stacked and a carrier arranges the final delivery to the customer. Above all, intermodal transportation is not just the movement, but the process, which becomes a major component of the systems approach to business".

Even if intermodal transports appear operationally mainly as the integration of links in the transport chains, the actual concept comprises much more than just the physical

movement of goods from consignor to consignee. This is supported by the following statements found in literature:

- 1) Bukold (1995) stated that intermodal transport is a combination of organisational functions for both the entire transport chain, as well as for individual links in the chain, and of the operational-technical functions for individual links of the chain.
- 2) D'Este (1996, p.7) claims that in the case of finely-divisible demand, lumpy supply, service frequency and scheduling, intermodalism has more common features with public transport than with private motor vehicle traffic.
- 3) Bithas and Nijkamp (1997, p.243) claim that transport function is shifting away from a purely physical shipment of goods and persons to a value added process where each step of the chain will add new services and economic value to the total process. This approach is similar to Porter's (1982) "Value Chain" concept which emphasises the importance of every single operation in the total value creation process until the product is delivered to the final customer.

The current most important issues and problem areas in intermodal transports as a service product to be marketed are:

- 1) Documentation and information transition at the interface points of the intermodal chain
- 2) Outsourcing
- 3) Shipper-carrier relationship.

Many costs, delays and problems of the intermodal transport system occur at the interface between the modes, even if the linehaul components work reasonable effectively. Thus it is necessary to explicitly include the description of the intermodal exchanges (D'Este, 1996, pp. 6-8).

According to Jennings and Holcomb (1996), intermodal transport strategy can be divided into three categories:

Firstly, the traditional assumption is that IM strategy consists of traffic of containers or other devices that are transferred from one vehicle or mode to another without the

contents of said device being reloaded or disturbed. This approach is called as "multimodal single-unit" strategy.

The second IM strategy is not limited to the action of shippers and carriers but to the IM services of different TPL (Third Party Logistics) service providers that have been involved in the practice for a long period of time. This IM strategy is based on the advantages of the economies of scale obtainable by a large number of transloaded units. This strategy may include some characteristics and reasons so that both advantages and disadvantages can be analysed in order to decide the viability of this freight transport option.

The third approach to intermodal transport strategy is to utilise the advantages of one of the unimodal transports in unit load movement from a consignor to a consignee.

In this research, the following definition of intermodal transport will be used:

Intermodal transport is a vertically and horizontally integrated door-to-door transport system managed by an external integrator, comprising partnerships, utilising multimodal transport system capabilities and the advantages of ITU:s with a purpose to create strategic alternative to physical movement of goods from the consignor to the final customer.

3.1 INTERMODAL TRANSPORT CONCEPT AND RELATED TERMINOLOGY

In this chapter, the concepts of multimodal transport, combined transport, one-stop-shopping and IFF are clarified. Often these terms are misleadingly presented as synonymous to intermodal transport. Considering the exact meaning of these terms, they express a special aspect or restricted form of intermodal transport concept.

3.1.1 Multimodal transport

ECMT defines multimodal transport *as carriage of goods by at least two different modes of transport*. In accordance with Proffitt (1995, pp. 20-21), multimodal transportation is

defined as the movement of a product via at least two modes of transport, using containers, swap-bodies, semi-trailers, and involving a combination of road, sea, rail and inland waterways. *Multimodal transport is more likely a passive utilisation of various modes of transport without any strategic purposes.* Multimodal transport constitutes the physical prerequisites for the utilisation of intermodal transport i.e. the strategic multimodal transport that is managed by one single operator. The utilisation of multimodal transport system can for example be a necessity to overcome geographical hindrances by loading vehicles upon or into each other (Woxenius, 1998, p. 93). The objectives in utilising either inter- or multimodal transports are to achieve lower overall costs, improved transit times in long haul trips, reduction of environmental encumbrances, reduction of road congestion and to improve service quality (Proffitt, 1995, pp. 20-21).

3.1.2 Combined transport

Combined transport is defined as multimodal transport where the major part of a journey is carried through by rail, inland waterways or sea and the connecting transports in the beginning and at the end of the main transport link are carried by minimal length road transport links (Holtgen, 1995 and Woxenius, 1994). Combined transport, executed with a combination of rail and road transport components is called *piggyback transport*. Most of the domestic intermodal transports in Europe are in actuality combined transport (see e.g. Woxenius, 1995).

3.1.3 One-stop shopping and IFF

The concept of *one-stop shopping* is frequently used to describe those services that global transportation companies are now offering. These so called full-house services frequently include intermodal transport services, offered by international transport service vendors (see e.g. Semeijn and Vellenga, 1995). The IFF (international freight forwarding) concept is in certain context quite similar to the concept of one-stop shopping, having similar

purposes in creating integrated transport and management service packages to customers needing international freight transport operations. The usage of one-stop shopping services is a company's strategic choice to outsource their physical distribution to one single TPL provider in the area of international forwarding that may utilise intermodal transport capabilities.

3.2 INTERMODAL TRANSPORT SYSTEMS

Systems in general can be understood as *a set of different elements so connected or related that as to perform a unique function not performable by the elements alone* (Harrington et. al., 1999, p. 54). According to Woxenius (1998, pp. 92-93) intermodal transport system comprise three forms of functions:

- 1) A *load carrying function* that must enable consolidation or packing of goods into units of suitable size and design.
- 2) A *transport function* that is implying at least two different transportation modes.
- 3) At least one *transshipment function* between transportation modes must be carried out in order to comply with intermodal definition.

A simple system description of intermodal freight transport is a structure consisting of technical (vehicles, units, infrastructure), organisational and institutional elements (state-run monopolies, independent operators and decentralised management structures) (Holtgen 1995, pp. 40-41). A more detailed system description, defined by five main layers is given by D'Este (1996, p. 4):

1. The physical base of transport operations and transport movements.
2. The associated commercial services and their direct costs.
3. The management of the transport systems control, that is measured in terms of time and effort.
4. The management system, which concerns the flow of information required to coordinate the intermodal trip and process the required documentation.
5. The liability for damage and delay that is measured in terms of relative risks.

Woxenius (1998, p. 91) applied Churchman's systems approach (objective, environment, resources, components, management, customers, decision-makers and planners) to intermodal transport systems.

Objective for IM is to transport ITU:s from consignor to consignee at a high service level with the least possible consumption of resources.

Environment arises from the demand of transport services, effects on political decisions, competition between different modes of transport and transport infrastructure.

Resources consist of lorries, equipment of terminals, wagons, rail engines, ferries and personnel that enable the movement of ITUs along the system.

Management of the system is offered either by ITC integrators such as forwarders or intermodal transport companies.

Customers for the system are those shippers purchasing the total IM service from the integrators or international freight forwarders.

Decision-makers don't have a formal role within the system but they are mainly the personnel working for the chain management in generally.

Planners are those operators within the chain that are not directly working as an integrator but influence on the management in close co-operation with integrators¹.

3.3 CHAIN APPROACH TO INTERMODAL TRANSPORT

The concept of a transport chain can be viewed as a single entity rather than fragmented groups each performing its own function (Gentry, 1996, p. 37). Intermodal transport chains are similar to integrated transport chains the major difference being that intermodal transport chains contain at least two different transportation modes, while integrated chain can be operated intramodally. An intermodal transport chain includes a number of consecutive activities from various operators with the purpose to move a consignment through the transport system from a consignor to a consignee. Intermodal transport chain consist of links and nodes. Links represent transport activities, using one of various vehicles (transport modes) along infrastructural elements (road, rail, or inland

¹ As an example, the personnel involved in a terminal company

waterway segment path etc.) of the system. Nodes represent transshipment points (ports, intermodal terminals) needed for the transshipment function.

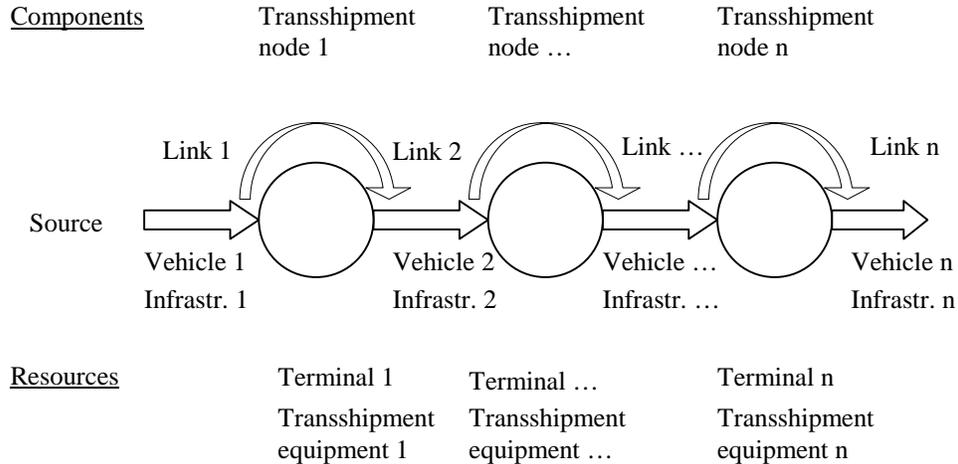


Figure 1. Intermodal transport chain (Woxenius, 1998, p. 101)

The complexity of a chain mainly depends on the number of the nodes. The above illustration does not exclude multiple links between nodes (alternate modes), which also becomes a factor of complexity. The control of the productivity and optimality of the optional chains depend also on the complexity degree. According to Woxenius (1998, p. 101), the integration of the intermodal chain implies that the different capabilities and regulations of infrastructure, and different actors operating links and transshipment nodes all must be considered.

To achieve the required efficiency there is a need to attain effectively executed transport links and efficiency in connecting several transport modes into a single co-ordinated freight movement.

3.4 EXTENDED CHAIN APPROACH TO INTERMODAL TRANSPORT

If one considers intermodal transport as a channel from consignor to consignee there are many parties that can influence on the operational effectiveness of the system. The complex structure of operators involved in intermodal transport exists mainly at the chain nodes (ports, terminals), where the role of chain influators² is essential. All the parties located in chain nodes and who are influencing strongly to chains competitiveness can be nominated as local net actors. More over., the description of the chain nodes in a network context offers the possibility of handling total complexity as a network model. The chain approach is insufficient in handling the existing relationship network consisting of a large number of operations and operators involved. The influence of local nets can be seen as an important factor in improving the effectiveness and competitive advantage within sections of the intermodal chains. Thus parties are invited in and to IM transport networks to build up strong relationships, to share resources and to build up locally coherent service products in co-operation with local net actors.

Thus, the relevance of network approach to the operational relationships at intersection points is evident. The chain approach is more imminent when closer operational and strategic dependence between operators at neighbouring nodes on the chain is considered. The chain approach is also an illustrative way in demonstrating the movement of ITUs along an intermodal path or corridor. Network approach allows the required extension for describing the vital actors, activities and resources influencing strongly on the vigour of intermodal transport³.

The practice of local nets in an intermodal transport system is strongly connected with the joining links. Local nets are not easily incorporated in the traditional network models,

² Consisting the members of local nets that are not chain parties. For example port authorities, customs officials, VAL service providers, etc.

³ As an example, AKT (a labour union for e.g. truck drivers, stevedorers and forwarders) has a very sensitive role in Finnish intermodal transport, while many vital operator groups are as a member of the union.

adding to the complexity. The network can be considered also consisting of several levels.

In Fig.2, the local net actors are included in the intermodal transport chain illustration.

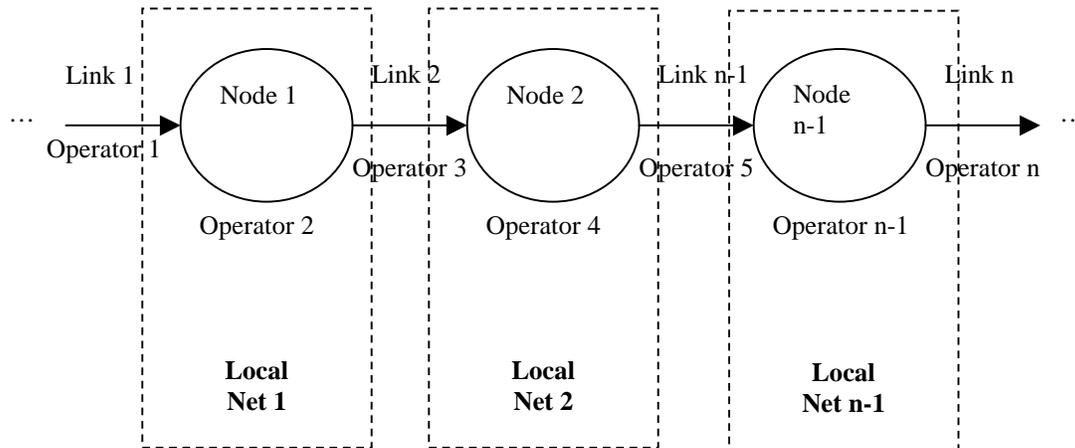


Figure 2. Extended chain approach to intermodal transport

4. INTERMODALITY IN FINLAND

Due to the geographical isolation from the main market areas in central parts of Europe, multimodal transport business is an obvious alternative for international freight transport in Finland. Still, the utilisation of the true intermodal transport can be developed further. In Finland, strategic intermodal transport has three eminent application areas: transit traffic, import/export traffic and domestic piggyback transport.

The general purpose of Finnish *transit traffic* is to receive containers from central parts of Europe and transfer them via Finland to Russian markets (Moscow, St. Petersburg). Transit traffic has traditionally been an ancillary business area for Finnish transport operators besides the traditional export-import -business. Therefore, the main customer

of Finnish transport operators is the Finnish forest industry as the major exporter in Finland.

To supply services for transit traffic, some smaller transport operators have been established. Their main purposes have been to give VAL services and road haulage to Russia. Nowadays, road transport has been increasingly transferred to Russian operators who are able to offer the service with reasonable prices and flexible customs clearance practises. Regardless of the decreased material flows of transit traffic and the increasing competition of the Baltic transit routes, Finnish operators still have a strong belief on the growth of the transit traffic. In south-eastern Finland, there is still active development in transit traffic; f.i. the capacity of container traffic has increased significantly, and south-eastern ports are planning large container handling additions. For unit load traffic, the Finnish gateway to Russia is a significant alternative compared to direct shipping to St. Petersburg or the utilisation of Baltic routes.

Another major transport flow consists from Finnish *export* to central European countries. In this, the development of Finnish intermodal transport is highly dependent on the needs of the main export business, the Finnish forest industry. There are tight traditional customer/ownership ties between transport operators and Finnish forest industry companies.

In import, the main flows come either across the sea or bulk material transports by rail from Russia. The geographical location of Finland is a natural factor in developing intermodal transport in foreign trade, but is executed in a multimodal transport fashion. Short sea shipping is only one alternative for the shipper in making the best choice⁴. According to this comparison of various choices of multimodal transport, the utilisation of the concept intermodal transport is justified also within this context.

⁴ Practically, the possible choices are pure road transport, combined transport with road/rail-sea-road/rail combination (Sea-Rail concept) or various combinations of other multimodal transport choices (inland waterway, rail, road, sea and air transports).

In Finland, the *domestic intermodal transport* is highly dependent from the national railway company (VR Cargo) and customers requiring intermodal services. The most successful applications are the daily piggyback or rolling highway services on Helsinki-Oulu and Turku-Oulu connections for customers having their industrial depots in northern and southern Finland. Otherwise, road haulage is favoured.

5. THE CONCEPT OF STRATEGIC ALLIANCE

The alliance driven behaviour can be identified in all sectors of industry of today. Due to the increased competition, higher customer expectations and rising costs, companies are forced to seek radically new ways to succeed in the marketplace. Strategic alliances are often utilised to rationalise business operations and to improve the overall competitive position of a company. According to Spekman et. al (1998, p. 763), business and relationship activities support each other, and the full strength of an alliance is dissipated when attention is diverted from either component. The companies are finding themselves unable to cope with the traditional arsenal of competitive strategies which emphasise maximum exploitation of individual firm's competitive advantage and as a result they are seeking strong partners (Das and Teng, 1996, p. 827). This clearly illustrates the trend in the shift from local optimum to global optimum in the business network. The theory of partnerships has been successfully applied to logistics studies, but the phenomenon itself originates from other disciplines such as psychology (ABC model, Equity theory, Learning theory, Reciprocity principle), marketing (Relationship marketing) and biology (Learning theory) (Stock, 1997). The genuine alliance research implementation in the field of logistics studies is abundantly able to notify from the relations between a manufacturing company and its raw material supplier (partnership sourcing, see e.g. Virolainen, 1998). Another popular issue in logistics research has been the collaboration between a shipper and its 3PL (third party logistics) vendor(s). A good example of this type of vendors are ITC (intermodal transport chain) integrator, freight forwarder, transportation company, warehouser etc. The partnership approach to supply chain management is a popular topic in the current scientific literature, however, strategic alliances between transport operators is still a sparsely studied area.

5.1 DEFINITION OF STRATEGIC ALLIANCE

While the concepts of alliance, partnership, strategic alliance, strategic partnership and partnering are similar in broader context, in this research these are treated as synonyms for simplicity. Vyas, Shelburn and Rogers (1995, p. 47) define strategic alliance broadly as an agreement between two or more partners to share knowledge or resources which could be beneficial to all parties involved. According to this definition, strategic alliance can be as simple as two companies sharing their technological and/or marketing resources or in contrast, it can be highly complex, involving several companies that are located in different countries. According to Mohr and Spekman (1994, p. 135), strategic alliance is a purposeful strategic relationship between independent firms who share compatible goals, strive for mutual benefit, and acknowledge a high level of mutual interdependence. Strategic alliance can be described as a process wherein participants willingly modify their basic business practices with a purpose to reduce duplication and waste while facilitating improved performance (Frankel, Whipple and Frayer, 1996). Strategic alliance contains co-operative arrangements that lasts at least few years and whose scope is sufficient broad to encompass a number of functional areas of the alliance partners (Sharma, 1998, p. 512).

Strategic alliances can be justified with a wide range of motives and goals, take a variety of forms, and may occur across vertical and horizontal boundaries. Strategic partnership is based on voluntary arrangements between firms involving exchange, sharing, or co-development of products, technologies, or services (Gulati, 1998, p. 293). According to Lambert, Emmelhainz and Gardner (1999, p. 166), partnership is a tailored business relationship based upon mutual trust, openness, shared risk, and shared rewards that yield a competitive advantage, resulting in business performance greater than they would be achieved by the firms individually. Partnership is a promise that by joining forces, both organisations will improve efficiency, boost profitability and improve customer service (Lambert, Emmelhainz and Gardner, 1999, p. 165). The goal for strategic alliance is to develop a win-win arrangement (Bagchi and Virum, 1996, p. 95). Partnering may be among competitors or non-competitors, and may exist for strategic or operational reasons

(Ellram and Hendrick, 1995, p. 41). These strong relational ties between two parties are also called as a dyads or dyadic -relationships (see e.g. Kornum, 1998). Tate (1996, p. 7) compared strategic alliance to a marriage and obviously these relationships have similarities in many contexts.

“A successful partnership is like a marriage. Neither just happens: both relationships require constant hard work from the parties involved. Both parties must understand each other’s needs, and must be compatible, with shared values. Like a marriage, a successful partnership requires open communication, mutual commitment to the partnership, fairness and flexibility. Both partners must weather the good times... and the bad. Successful partnerships are co-operative and collaborative. They are long term, and build on trust”.

In practice, alliance is generally considered as a formal contract. Frankel, Whippel and Frayer (1996, p. 47) noted, that firms working in logistics do not believe in formal written agreements or contracts as an integral or necessary component to achieve an effective alliance relationship. Spekman et. al. (1998, p. 759) issued, that formal agreements provide a frame of reference for alliance operations, but informal interfaces are the binder that tie the partners jointly together. However, alliance legal system allows one party not to be solely reliant on personal relationships (Spekman et. al., 1998, p. 759).

Kanter (1987, pp. 117-140) found three forms of alliances: *service alliance of several companies, alliance in the form of a joint venture* and a *stockholder alliance between the customer the supplier*. The illustration of alliance formation demonstrates the variety of definitions and different dimensions of strategic alliances including industry, arena, relationship, technology/market, state of technology and technology fusion (Vyas, Shelburn and Rogers, 1995, p. 47) (see figure 3).

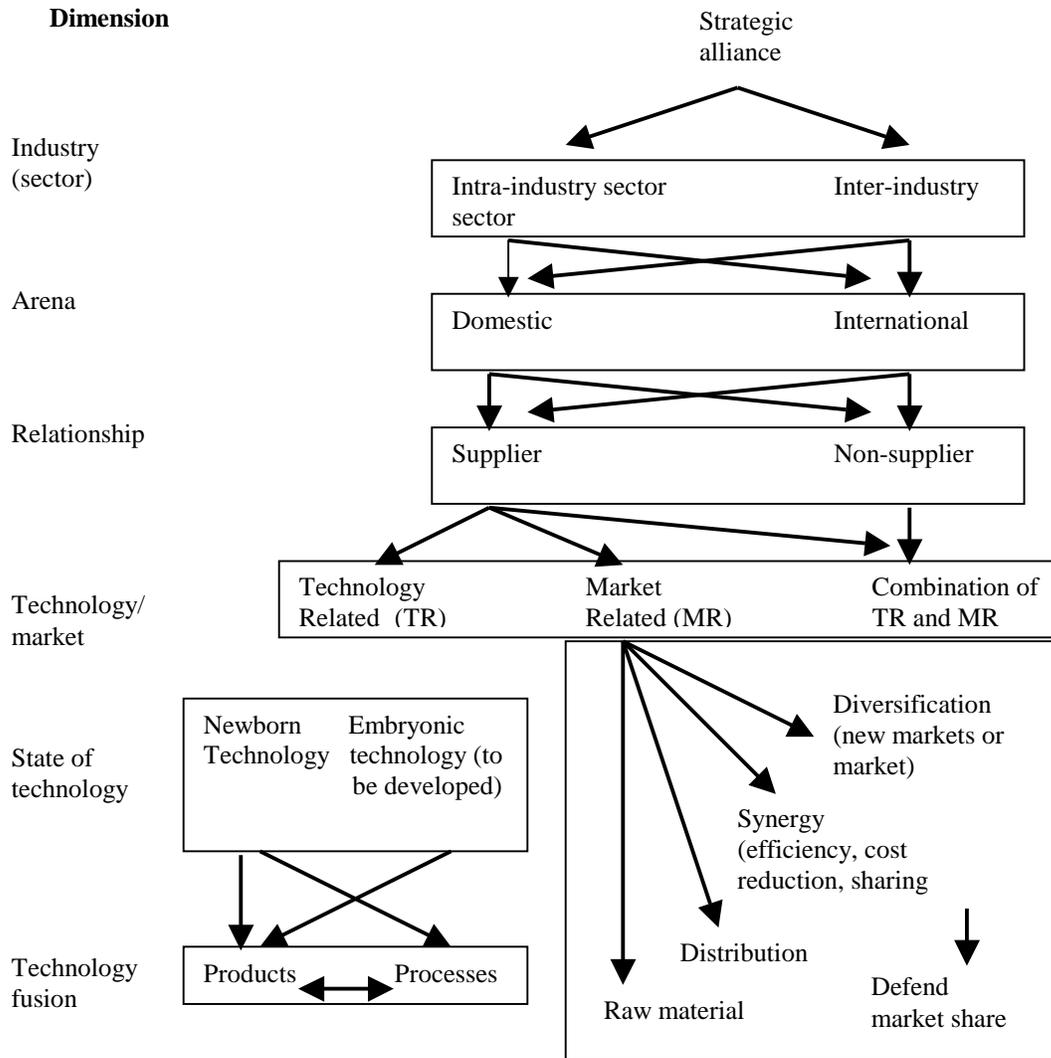


Figure 3, Dimensions of a strategic alliance

Ellram and Krause (1994) found in their study, that partnership – relationships in manufacturing and non-manufacturing companies are very similar. The main difference is that non-manufacturing companies, such as intermodal transport companies, are looking forward to more procedural and administrative benefits while manufacturers are more likely seeking improvements to the supplier's delivery and quality performance.

Alliances or different forms of co-operation in generally have various dimensions according to their purposes and goals. In their study, Gill and Allerheiligen (1996, p. 54) divided the co-operation within distribution channels into four groups:

- *Horizontal co-operation*, the relationship form among channel members of the same type, i.e. retailers co-operating with retailers.
- *Intertype co-operation*, the relationship among channel members of different types at the same channel level, i.e. discount stores co-operating with department stores.
- *Vertical co-operation*, the relationship among channel members at different levels in the channel, i.e. manufacturers co-operating with wholesalers.
- *Channel systems co-operation*, the co-operation in which a channel system for one product co-operates with a channel system for a second product.

Equivalently, in some literature the concepts of strategic alliance and partnership are presented with different dimensions. As an example of such a comparison, Gattorna and Walters (1996, p. 189) distinguish vertical and horizontal relationships. In addition, in the dissertation of Virolainen (1998, p. 43) the vertical relationship between supplier and buyer was defined as a *partnership* and that horizontal between two suppliers as an *alliance*.

Regardless of the broad variety of definitions for strategic alliance, all have certain similarities (Spekman et. al., 1998, p. 748):

- each has goals that are both compatible and directly related to the partner's strategic intent
- each has the commitment of, and access to, the resources of its partners and
- each represents an opportunity for organisational learning.

5.2 THE FORMS AND STABILITY OF INTER-FIRM RELATIONSHIPS

The definition of a strategic alliance does not in general comprise joint ventures or arm's length relationships as described in the paper of Bleeke and Ernst (1995). More likely,

strategic alliance are seek as strengthened arm's length relationships that may under certain circumstances be a precursor to a more comfort, rapport and economic merger or an acquisition (Spekman et.al., 1998, p. 749).

Arm's length relationship can be defined as an expectation of future transactions (Gardner and Cooper, 1993, p. 16). Recently, arm's lengths have been predominant in two company relationships. Arm's lengths usually consist of either on-time exchanges or multiple transactions. Even though arm's length relationship can exist for a long period of time, the parties still have no sense of joint commitment or joint operations (Lambert, Emmelhainz and Gardner, 1996, p. 1)⁵.

Strategic alliances are long-term agreements between two or more partners with the purpose to achieve mutual benefits from collaboration. Lambert, Emmelhainz and Gardner (1996, p. 2) present an approach to three degrees of partnerships:

- I. The organisations involved recognise each other as partners and, on a limited basis, co-ordinate activities and planning. The partnership has usually a short-term focus and involves only one division or functional are within each organisations.
- II. The organisations involved progress beyond co-ordination of activities to integration of activities. Although not expected to last "forever" it has a long-term focus. Multiple divisions and functions are included to partnership.
- III. The organisations share a significant level of organisational integration. Each party views the other as an extension of their own company. The end day of the partnership does not exist.

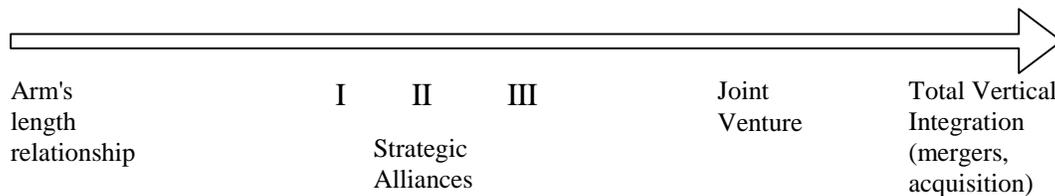


Figure 4. The degree of inter-firm relationship forms

⁵ In intermodal transport context arm's length relationship can represent for example a formal or informal agreement between shipper and intermodal transport service vendor to provide daily intermodal transport service without any mutual commitment.

Joint ventures normally entail some degree of equity or shared ownership across the parties (Cooper and Cardner, 1993, p. 15). It is the posterior step from strategic alliances towards mergers or acquisitions. Joint venture is an aim to reduce those barriers that are existing in higher level decisions or strategic choices. Joint ventures can be a shared ownership between two equal companies within the intermodal transport chain where the parties are affirming those ties of relationship with the purpose to increase its plausibility and mutual compliance⁶.

Total vertical integration is a complete ownership that occurs through mergers, acquisitions, or internal growth (Cooper and Gardner, p. 15). Total vertical integration is the most powerful way to reduce those barriers that exist within intermodal chains⁷. Even if it is hard to implant today's transport environment, the future possibility to build up competitive intermodal transport corridors is evident.

Das and Teng's (1996, p. 828) found inter-firm alliances as equity and non-equity alliances. *Equity alliances* involve the transfer or creation of equity ownership, and they take two primary forms: direct investments and joint ventures. *Direct investments* occurs when one of the partners acquires partial ownership from the other partner or partners. In joint ventures, partners invest in a new, jointly owned entity. The *non-equity alliances* do not involve any equity transfer but several types contractual agreements involving all the three levels of partnerships.

5.3 COMPARING TRADITIONAL RELATIONSHIPS AND PARTNERSHIPS

The main difference between traditional relationship and partnership is that the traditional business-to-business relationship is transactional, while a partnership extends over a long

⁶ Typical joint ventures have been placed between ports and port operators. This inartificial win-win relationship has been strengthened by establishing a new, jointly owned entity with the purpose to share risks and rewards.

⁷ This form of relationship can be recognised from the behaviour of today's intermodal transport operators (ITO:s) and mega carriers that have been accrued through mergers with one or more of the existing intermodal transport operators (e.g. hauliers, freight forwarders or port operators).

period of time, involving sharing of benefits and burdens, and allowing operation control across firm boundaries (Tate, 1996, p. 7). Vyas, Shelburn and Rogers (1995) compare the traditional management style with strategic alliance management:

Traditional management style

- More resource oriented managed and optimised internally for short-term perspective.
- Acting as a closed-system.
- Includes hierarchical intra-firm barriers.
- Success is based on competition and operational secrets.
- Functionality causes lack of information sharing.
- Fear of failures.
- Slow response to changes.
- Strategic alliance relationship is viewed as a threat with reduced control and power, and loss of job; there is neither interest to find out alliances nor to make them successful.

Strategic alliance management

- Shared/distributed control in long-term perspective.
- Acting as an open-system.
- Absence of "hierarchy" in the alliance relationship.
- Success is based on co-operation, including information sharing among partners.
- Value of formal, informal, and cross functional communication is stressed.
- Failures tolerated and expected to lead to new insights.
- Permits rapid and flexible response to changes.
- Strategic alliance is viewed as a strategic tool with mutual learning, mutual dependence, formal training and informal networking.

5.4 PARTNERSHIP DRIVERS

According to Mohr and Spekman (1994, p. 135), the previous research of strategic alliances has presented theories addressing the reasons why firms enter into closer business relationships. Good examples of this approach are e.g. transaction costs analysis, competitive strategy, resource dependence, political economy, and social exchange theory, each giving premises for the conditions of forming partnerships. Additionally, there are several motives for companies on entering strategic alliances with the most essential partners and on strengthening the existing relationships. However, the benefits of building an alliance relationship generally are individual in each case (Frankel, Whipple and Frayer, 1996). Lambert, Emmelhainz and Gardner (1999, p. 169) nominated

those drivers as partnership drivers, including *asset/cost efficiency-*, *enhanced customer service-*, *marketing advantage-* and *profit growth/stability drivers*.

In addition, many other authors in strategic alliance literature have treated the possible partnership drivers. The most common recognised drivers are reduced costs through specialisation, improved synergic performance, increased information to support joint planning, enhanced customer service, reduced risks and uncertainty, shared activity and competitive advantage (see e.g. Spekman et. al 1998, s.758). Other drivers that have been found from alliance literature are increasing source reliability, lowering price/total cost, improving delivery, improving quality, influencing and sharing technology, and reducing the administrative burden of the relationship (Ellram and Krause, 1994 s. 44).

Mohr and Spekman (1994) have pointed out the access to new technologies or markets, the ability to provide a wider range of products/services, economies of scale in joint research and/or production, access to knowledge beyond the firm's boundaries, sharing of risks, and access to complementary skills as being important benefits that a company may achieve through alliances. Furthermore, strategic alliance provides a platform for enhancing critical resources, skills and competence, and gaining of market power (Sharma, 1998, p. 511). In addition, vertical disaggregation, shrinking product life cycles, growing capital investment requirements and organisational learning were mentioned as important partnership drivers by Spekman et. al. (1998, p. 747). Consistently, a successful strategic alliance provides partners an access to a larger pool of talent, gives access to wider markets, improves competition position of the partners in the marketplace (see e.g. Sharma, 1998) and allows companies to focus on their core business (Frankel, Whipple and Frayer, 1996). Frankel and Whippel (1996) have collected a set of various alliance motivation frameworks of different authors which are presented in Table 1.

All the above drivers have different importance for each alliance. Alliance parties should openly inform each other on their drivers in a joint session to help partners to identify the possible gaps with existing expectations for the forthcoming alliance.

Table 1. Alliance Motivation Frameworks, Source Frankel and Whippel (1996, p. 21)

AUTHOR	MOTIVATIONS
Van de Ven (1976)	<ul style="list-style-type: none"> • Need for External Resources • Need for External Firms • Realise Market Opportunities • Awareness of Other's Needs • Personal Acquaintances
Kogut (1988) Position	<ul style="list-style-type: none"> • Transaction Costs • Organizational Knowledge Transfer • Enhanced Competitive
Oliver (1990)	<ul style="list-style-type: none"> • Mandated Necessity • Reciprocity • Environmental Stability • Asymmetry (Power) • Efficiency • Legitimacy
Ellram and Cooper (1990)	<ul style="list-style-type: none"> • Economic (Financial Risk; Cost and Quality) • Managerial (Organisational Efficiency of Focus) • Strategic (Positioning of Competitive Advantage)
Bowersox et. al (1992)	<ul style="list-style-type: none"> • Cost Reduction Through Specialisation • Joint Synergy • Increased Information To Support Planning • Customer Service Enhancements • Reduced/Shared Risk • Shared Creativity • Gain Competitive Advantage
Hagedoorn (1993)	<ul style="list-style-type: none"> • Technological Access and Development • Cost Reduction • Market Access/ Opportunities • Reduced Uncertainty • Knowledge Exchange
Ring and Van de Ven (1994)	<ul style="list-style-type: none"> • Technological Access • Scale Economies • Risk Sharing • New Markets • Gain Complementary Skills
Martinez et. al. (1994)	<ul style="list-style-type: none"> • Structural • Individual/Personal • Institutional
Varadarajan and Cunningham (1995)	<ul style="list-style-type: none"> • Market Entry/ Position • Product/ Market Related • Market Entry Timing • Resource Extension • Skill Enhancement • Product Related • Market Structure Modification • Resource Use Efficiency • Risk Reduction

6. STRATEGIC ALLIANCE APPROACH TO INTERMODAL TRANSPORT, A PRELIMINARY CASE STUDY

Intermodal transport can best be illustrated with an extended chain approach including several operators operating jointly in overlapping environments, and sometimes even in unhealthy competitive situation. Competition increases uncertainty of the future of every operator. The competition within intermodal transport systems has two main manifestations. First, intermodal transport service providers are competing against unimodal transport service providers who still have several advantages (shorter delivery times, considerably better flexibility and lower overall transport costs); this competition occurs mainly in small and medium distance (max 300 km) transports. Proffit (1995) found the motives for a shipper to utilise intermodal transport to be the lower overall costs, improved transit times for long-haul journeys, reduced environmental issues, reduced road congestion and higher quality of service. These issues provoke intermodalism to improve its competitiveness by developing new service products, equipment, and improve on the automated handling and transporting. The second main type of competition between the operators serving the same types of intermodal services to a limited set of customers (shippers, chain integrators). According to Spekman et. al., (1998, p. 749) strategic alliance should guide the strategic efforts/goals of the firm and it ought to be a strategic tool to understand/cope with uncertainty in the channels and chains.

A primal basis for channel organisation lies in the economic benefits to be gained from specialisation. Each channel or chain member should specialise in performing certain types of functions in the conveyance from manufacturer to consumer. These specialisation areas are typical for intermodalism where each operator has a very narrow task in the system. Specialisation in channels creates dependence among the participants. None of the channel/chain members can individually perform all the necessary functions from consignor to consignee, which is the basis for mutual dependence of all the channel and chain members, having one common objective - to maximise profits through the sales of the product or service. The various functions provided by each contributor to this

goal and the mutual interest brings all channel members together as allies. The implementation of strategic alliances between intermodal transport companies can obtain several advantages through the extendedness. In general, the creation of successful strategic partnerships will give all alliance parties a competitive advantage in the marketplace (Lambert, Emmelhainz, Gardner, 1999, p. 165).

Managers are continuously forced to find new solutions to improve their company's competitiveness and to strengthen the operator's position in markets. One generally accepted mean to improve competitiveness is to act increase co-operation forcefully. According to Höltgen (1995, p. 50), intermodalism relies heavily on the co-ordination of different modes, the co-operation of their operators, and on the interface facilities where goods are transshipped from one mode to another. The most critical parts of intermodal transport systems are the intersection points where most of the operations and operators are involved. The vitality of co-operation gives new dimensions also to intermodal transport research. It is increasingly important to focus IM studies not only to those technical possibilities of intermodalism but also to co-operation of operators which can influence reciprocally to each other's welfare.

6.1 MOTIVES AND METHODS

To ensure the relevance of strategic alliance approach to intermodal transport, a case study was conducted. This included ten interviews with experts involved in transit traffic and/or operating intermodal transports in south-eastern Finland. These interviews were carried out in may and june 1999. The results are presented anonymously by utilising *informant format*. The relevance of strategic alliance approach to IM was tested in managerial and other levels in the companies. As a result of the case study, the level of recognition of strategic alliances and validation strategic alliance approach to intermodal transport was clarified. The case study also presents the level of strategic alliance attitude and behaviour in the case study environment.

6.2 RECOGNITION OF ALLIANCES AND VALIDATION OF ALLIANCE APPROACH

The alliance phenomenon was largely noticed by the informants (see table 2). Operational and strategic partnerships and joint development were mentioned as a natural way to develop intermodal transport operations. For the most informants strategic alliance is a possible strategic choice and a strategic alternative to gain competitiveness in intermodal transport business. Some informants recognised alliance striven behaviour as an important part of their business strategy.

Even if the informants have formed alliance -type relationships, mainly in south-eastern Finland, the formal and true partnerships have still a very minor role in operators' business behaviour. In many cases, the companies were hesitant using the option of building true (I-III level) partnerships in the intermodal transport context, mainly because it involves openness and information sharing of the cost structures of their services. The existence of any true partnerships in transport business was questioned by some informants. In addition, some of the informants did not consider partnerships as strategic choices, preferring instead strong and long-term relationships with no formal contractual agreements. Some of the informants perceived that formal contract may in some cases influence negatively on operator's arm's length relationships. Some operators prefer the role of a common carrier and they refuse to appoint any single relationship as a strategic alliance or any single operator as a strategic partner.

However, the alliance approach was recognised as a valid approach to intermodal transport studies, and the consideration of partnership relations to intermodal transport chains received much support from the experts. By strengthening relationships between other chain parties, an operator will generate a base for a long-term development and competitiveness. All the informants recognised the need for strong and long-term relationships and many of the informant believed that partnerships are already an ordinary way to succeed in the intermodal transport markets.

Table 2. Alliance recognition and validation in the preliminary case study

<i>Interviewee</i>	<i>Alliance recognition/ validity level (weak/ medium/strong)</i>	<i>Comments</i>
Informant 1	Strong/Strong	The alliance striven behaviour is as a part of our business strategy. Still, there are not true partnerships in Finnish transport industry.
Informant 2	Low/Medium	Alliances may be possible between two operators.
Informant 3	Strong/Medium	Many partnership alike relationships exist, but they do not conform to partnership principles. Partnership is an ideology which cannot actually be achieved!
Informant 4	Strong/Strong	Transport business, in general, is based on strong and long-term, partnership -type relationships.
Informant 5	Strong/Strong	Alliances are the <i>reality</i> in today's transport business whether we want to believe it or not.
Informant 6	Strong/Strong	Every operator should seek strong partners to gain additional skills and joint operations. Alliance striven behaviour is increasing purposefully in transport business.
Informant 7	Strong/Strong	Alliance has a strong position in our business strategy. Our company's attitude is towards TRUE partnerships!
Informant 8	Low/Medium	Collaboration is vital for our business.
Informant 9	Medium/Medium	We might have alliances, but we prefer common carrier ideology.
Informant 10	Strong/Medium	The informal alliances have been established, but they reduce the open co-operation of operator network for this area.

6.3 ALLIANCE STRIVEN ATTITUDE AND BEHAVIOUR OF THE OPERATORS

With the reference of the case study interviews, operators attitude and behaviour for strategic alliance can be divided into four main categories (Figure 5):

- I. Strategic alliance has already been established and is regarded strongly as a strategic option;
- II. Strategic alliance –type relationships have been formed but alliances are not a strategic choice;
- III. Strategic alliance has not yet been established but openly kept as a possible strategic option in the near future;
- IV. Strategic alliance has not been established and the company doesn't see it as a possible option in the near future.

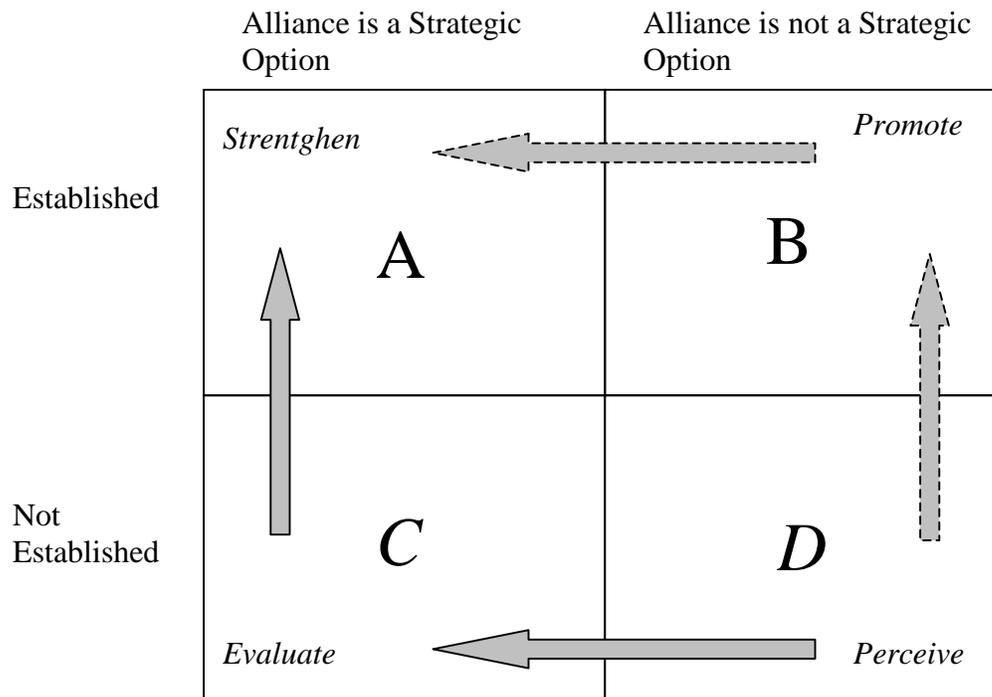


Figure 5. Alliance attitude-behaviour matrix

- A. For the first proposition, there are a group of operators acting in IM business that are willing to admit strategic alliances as a great strategic opportunity. Alliances are a purpose to reduce sub-optimisation in the IM chain, to create a better management possibility in the wider context, to integrate accessory operations, to create joint strategic goals, and to establish or develop new products and procedures in co-operation with partners. According to the operators in this level

”The phenomenon of strategic alliance is reality in the current intermodal transport business, whether we wanted to believe it or not”.

The operators are openly introducing their motives for collaboration. Their opinion is that openness reduces the negative influence of the partnership with the reference of the existing arm’s length relationships. Mutual information sharing among partners improves their joint operations, and improves their competitiveness with long view. Still, many of the current partnerships in south-east Finland belong mostly to I or II level of strategic alliances (see chapter 4.2). The existing alliances are mainly of short or medium age, and they are based on some development project or integration of the existing operations by e.g. joint scheduling. There are only very few operations included into partnership and the collaboration exists to serve only certain restricted needs. The operators in this level are suggested to *strengthen* their alliances. Long-term focus reduces the uncertainty and gives the advantages of deeper, strategic co-operation with a longer view. In addition, the operators within this class should form new strategic alliances from the existing arm’s lengths. The stronger relationships a company is able to tie, the more likely is the existence of a continuous development in many areas of intermodal transport.

- B. The operators within this category have been establishing some partnership alike relationships. Existing collaborative relationships have clear partnership characteristics, but the company has not been able to identify or accept it. The

motives for such behaviour is two-dimensional. First, a company may have consciously formed partnership –type relationships with the most important intermodal transport partners but this is not to be public knowledge as an alliance. The restriction for partnership establishment can arise from e.g. legislative, competitive or administrative reasons. Second, a company may have established partnership alike relationships without any strategic purposes. These alliances frequently arise from the genuine conjunction of two operators and have ingredients for formal strategic alliance. If possible, the operators in this level may *promote* the existing relationship to a strategic alliance. The formalisation of the relationship increase the recognition of the partners needs in all operational levels.

- C. In this group, operators do recognise strategic alliance as a current trend in global transport business. They believe that strategic alliance may be a possible option for their business strategy in the near future, but they have still not entered one. The operators find all their customers equally important and are afraid to favour one as a partner. The operators in this level are more likely willing to act with common carrier ideology. There are a strong barriers in entering an alliance; including uncertainty to find the best partners with view on the competitiveness in the long run. The unawareness of the future competitive situation is hindering the commitment to long-term agreements.

The operators in this level should continuously *evaluate* their need for alliances in order to improve their contribution to integration, technological and operational preparedness of the chain. Most of the chain members have strong, long-term relationships that could be easily be formalised. A partnership does not need to cover all their business areas. A good practice is to first implement this to only a few operational areas, where the partnership integrates both parties. Even daily operations do not necessarily require operational promotion into a partnership, however, there can be a commitment to developing e.g. technological readiness in some part of the chain.

- D. In this level, the operators may have strong arm's length relationships that are not recognised as a strategic alliance nor a strategic option. The operators do not prefer strategic co-operation, but they are more likely willing to co-operate in the day-to-day transport problems. These operators should *perceive* the need to co-operate and to allocate resources with more attention and to manage the relationship as a strategic choice to improve their synergy with the purpose to obtain improved customer satisfaction. To take partnerships from daily interaction to collaboration improve both parties to develop their operations and to set strategic goals in long period of time.

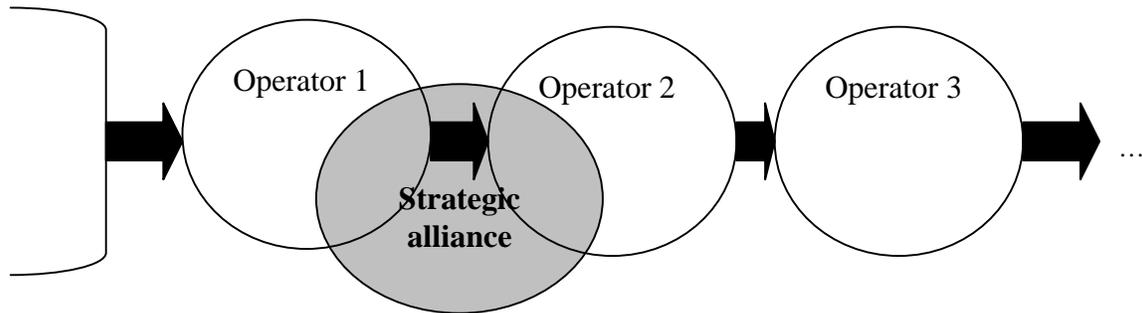
The positioning of the informants in the attitude-behaviour –matrix was analysed (Table 3). The case study indicates that many of the operators do have partnerships or relationships that can be compared with strategic alliance. The existing partnerships can be among extended chain parties i.e. the partners either transferring ITUs along the chain or alternately influencing strongly to chain operations. Still many of the existing partnerships do not truly fulfil all the partnership principles. There are many alliances working at operational level, many alliances without any integration of cost structures and many alliances concerning only those operational prerequisites (infrastructural development, operational integration) needed for an efficient intermodal transport. However, this case study proved that partnerships are a substantial trend in current intermodal transport business.

Table 3. Positioning of operators in the attitude-behaviour matrix with the reference of the preliminary case study

<i>Interviewee</i>	<i>Operators' settlement in the attitude-behaviour matrix (A,B,C,D)</i>	Description
Informant 1	A	Partnership between two local net members to share benefits and burdens.
Informant 2	D	Many strong arm's length relationships that are not in a strategic level.
Informant 3	B	Partnership alike relationships utilised pre-eminently in a new intermodal transport product development. Nevertheless, relationships are not recognised as strategic alliances.
Informant 4	A	Partnership between two local net members to share benefits and burdens.
Informant 5	A	Alliances are the <i>reality</i> in today's transport business.
Informant 6	A	Partnership between two local net members to share benefits and burdens.
Informant 7	A	A partnership between two chain operators to utilise each other's core competence area to improve joint operations.
Informant 8	C	Strong operational relationships with many operators. More likely information share based collaboration.
Informant 9	C	Partnerships may be possible in the near future but not yet been established.
Informant 10	-	Not an operator or a member of an local net.

7. CONCLUSIONS

This study presents an approach to the interface between the concepts of strategic alliance and intermodal transport. As a result of the case study, strategic alliances was verified as a relevant approach to intermodal transport. The case study showed that both formal and informal alliances have been established within intermodal transport business. The purpose of partnerships is to find new ways to succeed in the increasingly competitive intermodal transport markets. By establishing strategic alliances, an operator will gain competitiveness. Still many of the existing alliances are at the operational level. The need to promote an alliance to a strategic level is continuously strengthening. The uncertainty about the future of transport volumes and market success is hindering the alliance formation between operators. Still, strategic alliances have great opportunities in intermodal transport context where the dependence among the operators is substantial.



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