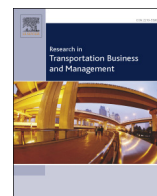




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Identifying competitive strategies for each phase of the intermodal terminal life cycle

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ABSTRACT

This paper applies the marketing strategy literature to the four phases of the intermodal terminal life cycle (ITLC) to identify the appropriate competitive strategy to be undertaken at each phase, based on fluctuating markets and competitor behaviour. Not only can applying the correct strategy at each phase help to obtain a competitive advantage, but anticipating future strategies in advance can underpin the success of current strategies and ensure that both public and private stakeholders are prepared for future challenges.

The paper derives the appropriate strategies, provides empirical examples and discusses the opportunities and challenges inherent in each strategy. The paper concludes with suggestions for future research on strategy options that go beyond the traditional view of terminals as homogeneous interchangeable assets. Rather than simple improvement of factor conditions by investing in the infrastructure, innovative strategies to obtain competitive advantage should focus on partnerships with external stakeholders such as rail operators, 3PLs and shippers.

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1. Introduction

Research on intermodal transport operations and policy goals of modal shift from road to rail are based on certain assumptions and contexts which change throughout the life cycle of the terminal. Moreover, the accuracy of these assumptions depends on the interdependent relations between key stakeholders in the intermodal sector, for example the business model of the terminal, the KPIs and fees agreed in the terminal concession, the relationship between terminal operator and rail operators using the terminal and operational issues of wagon and locomotive management.

Monios and Bergqvist (2016a) applied the product life cycle (PLC) to intermodal terminals in order to establish a life cycle framework for situating analysis of intermodal terminal activities and strategies. This framework runs from the initial planning by the public sector, to the split in funding and ownership, selecting an operator, specifying KPIs, setting fees, ensuring fair access, and finally to reconcessing the terminal, managing the handover and maintaining the terminal throughout its life cycle. This last point is especially important as industry conditions change and the terminal's role in the transport network comes under threat. Incumbent private operators are frequently

reluctant to invest in old terminals, while public sector planners seek to maintain the quality of their national network. All of the phases throughout the terminal life cycle must be understood in order to provide a valid context to analysis of intermodal transport which provides input into government modal shift policy which itself is used to drive decisions on planning policy at all levels (local, regional and national) of government. Each phase of the intermodal terminal life cycle (ITLC) has certain key stakeholders and activities associated with it.

The focus of this paper is on deciding the appropriate competitive strategy for the intermodal terminal operator. The goal is to apply the marketing literature to the ITLC in order to identify the appropriate competitive strategy to be undertaken at each phase, based on fluctuating markets and competitor behaviour. A template for this approach was provided by Shaw (2012), who produced a framework linking the PLC with marketing strategies for each phase. Not only can applying the correct strategy at each phase be useful, but anticipating future strategies in advance can underpin the success of current strategies and ensure that the terminal is prepared for future challenges.

The following section introduces the competitive market in which intermodal terminals operate, drawing on Porter's Five Forces and Competitive Diamond as well as the resource-based view. Section 3 describes the inductive methodology based on literature review and case examples and Section 4 briefly recaps the main elements of the four phases of the ITLC. Section 5 applies the marketing literature to these four phases in order to identify the types of strategy relevant for each phase, which are then operationalised with empirical examples of

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each strategy. Section 6 discusses the issues arising from the application of each of these strategies in the intermodal sector. The final section draws conclusions related to the wider application of this framework and provides suggestions for further research.

2. Competition, resources and strategy in the intermodal terminal market

In order to guide terminal strategy, it is first necessary to understand the terminal's role in the market. Wiegmans, Masurel, and Nijkamp (1999) used Porter's model of five competitive forces to consider the intermodal freight terminal market. They discussed barriers to entry and threats of substitute goods and which actors exercise power in the market. The industry competitors are other terminals operating within the local area, while potential entrants are new terminals that could be developed or perhaps old terminals re-entering the market. This is not normally a very immediate threat due to high entry barriers such as high investment costs, lack of market potential and lack of suitable locations; therefore, the threat of substitutes (i.e. road haulage) is far more serious and this is where the usual difficulty for intermodal transport lies. In terms of negotiating power, there is the negotiating power of suppliers, in this case the owner of the terminal facilities, if different from the operator. This is not always an issue as in many cases the operator is the owner or if not then they have a fairly stable relationship or concession with the owner, and both their interests are in alignment. The negotiating power of buyers is more often a challenge, usually rail operators bringing their trains to the terminals or 3PLs managing trains. There is also a second level of buyer power because the ultimate buyer of the transport service is the shipper, who will use road haulage if rail costs are too high or service quality too low, but these concerns are mediated through the rail operator or 3PL through whom the shipper contracts their transport services. If the terminal costs are too high or the service quality too low then the rail operator cannot ultimately provide attractive rail services to the shipper.

The appropriate strategy to adopt can also be derived through reference to the resource-based view (RBV), which seeks ways to exploit asset specificity, whereby resources should be non-substitutable. Intermodal terminals are a fairly interchangeable resource unless they can offer better service or, ideally, more innovative and unique services. Thus Monios and Bergqvist (2016b) showed how moving from the resource-based view to the relational view can produce resource heterogeneity from an inter-firm relationship, for example a terminal integrating or collaborating with a rail operator and a shipper.

Ng and Gujar (2009) applied Porter's Competitive Diamond model to terminals, which is an updated version of the Five Forces. They argue that this model is more dynamic, moving beyond improving terminal operations by investment in factor conditions towards innovative strategies through which a terminal can differentiate itself from its competitors and even overcome deficits in factor conditions such as location or capital. As transport decisions and requirements become more integrated with the larger logistics strategy of terminal users, better customer focus and integrated solutions with rail operators can help terminals embed themselves more stably within a customer's supply chain. Cooperation with competitors and intensive marketing can also be applied, therefore using this lens reveals the importance of intermodal terminals taking a proactive stance on marketing strategy, rather than simply focusing on terminal efficiency and competing through price against broadly substitutable competitors. This kind of innovative strategy is captured by the value net model (Brandenburger & Nalebuff, 1996), which includes not just competitors, suppliers and customers but also complementors, which in this case would refer to an innovative strategy such as a terminal setting up a service in conjunction with a rail operator (e.g. sharing terminal equipment upgrading costs in exchange for traffic guarantees, providing maintenance and storage of wagons and locomotives) and working closely with a shipper (e.g. flexible

opening hours of the terminal, flexible storage fees, detailed planning/preparation of chassis for pre- and post-haulage).

Sandberg (2013) showed that business models in logistics have internal and external components, and Monios (2015a) identified the internal and external governance relationships between intermodal terminals and logistic platforms, whereby the importance of external relationships with rail operators and ports were revealed to be of crucial importance in obtaining competitive advantage. These theoretical developments indicate that earlier models such as Porter and the RBV provide a sound basis but require increased nuance in their application to specific sectors. In order to be more specific about the kinds of strategies available to a terminal operator, it is necessary to understand that the terminal's needs and options change during its life cycle. This paper builds on the use of the product life cycle concept by Monios and Bergqvist (2016a) who identified the four phases of the intermodal terminal life cycle, by using the marketing literature to identify the kinds of strategies relevant at each phase.

3. Methodology

This paper uses an inductive methodology, first to identify the relevant phases of the terminal life cycle and, second, to identify from an analysis of the literature and representative examples the appropriate marketing strategy for each phase. This paper is, therefore, to some extent a conceptual paper, nonetheless based on empirical examples. While cases from the authors' work and others published in the literature are given as examples of each strategy, the strategies cannot be induced solely from an analysis of such cases. The selection of cases is based on the premise that they provide good illustrations for the respective phases of the terminal life cycle. The aim of the paper is to identify and classify each strategy type, using brief empirical examples to demonstrate how these strategies are being applied in the intermodal sector, but space limitations preclude full case study analysis of all of the eight strategy examples.

One challenge arising from the many different frameworks under which intermodal terminals have been analysed in recent years is aligning the different focuses, from location studies and transport cost analyses to explorations of policy and planning issues. It is, therefore, not possible simply to compare strategies by quantitative analysis of the totality of cases in the literature. The issue is not whether x% of terminals use strategy y or x% use strategy z. The goal is to use a sound theoretical basis to derive the framework of possible strategies which can then be used as the basis of understanding and comparing terminal actions, and as a basis for future research exploring individual strategies in more detail. That is why the framework must be structured according to the theoretical background from the marketing literature, where such strategies have been studied. Many of these issues derive from organisational complexity, conflicts in motivations between key stakeholders and changing governance forms between the development phase and the operational phase. This paper consolidates previous research and develops a research agenda by identifying the key strategies within a new framework; future researchers can then focus on individual relationships that can aid the policy goal of increased modal shift to intermodal transport.

4. The intermodal terminal life cycle (ITLC)

This section provides a brief overview of the ITLC developed by Monios and Bergqvist (2016a). The product life cycle (PLC) concept has been influential for many decades and continues to appear in marketing textbooks. While it is a useful concept for description and education purposes, concerns exist regarding its ability to predict and forecast as well as guide strategic behaviour. The five stages of the PLC concept are development, introduction, growth, maturity and decline, and in its most basic form the shape of the curve is determined by sales plotted over time (Fig. 1).

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