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A typology for selecting an appropriate Total Landed Cost method in international supplier selection decisions

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Abstract

The Total Landed Cost (TLC) often comprise a large share of the total international sourcing cost and thereby determine the cost-saving potential. On the one hand, companies often have to deal with a set of different international supplier selection situations; on the other hand, the literature deals with TLC methods varying in the degree of accuracy and complexity. Up to now, a link between the different situations and the various methods is missing. In consequence, this paper develops a typology for selecting an appropriate TLC method, based on an exploratory world café method with 24 purchasing and supply chain managers.

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Keywords: Total Landed Cost; international sourcing; global sourcing; supplier selection; sourcing decision; world café method; typology; Analytic Hierarchy Process

1. Introduction

Several researchers have mentioned that international sourcing is typically driven by cost considerations. Lower factor costs, fewer regulatory control and several other factors could lead to considerable savings [1]. However, the Total Landed Cost (TLC) often comprise a large share of the total international sourcing cost and complicate the profit picture [2]. In this study, TLC is seen as the sum of all costs associated with obtaining a product, including transportation, inventory, administration, customs, risk & damage, handling and packaging [1, 2]. It also includes hidden costs; for example, uncertainty in supply is often accompanied by additional inventory [3]. Therefore, the

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TLC must become an integral part of every international sourcing analysis [1, 4, 5] to be able to make deliberate choices.

Nevertheless, different studies clearly show that companies often underestimate the true costs of international sourcing, with the consequence of yielding less than expected savings or in fact uneconomical results [6–8]. A survey research by Pumpe and Vallée [9, 10] has been the first that analyzed the ordinary way of TLC evaluation in international supplier selection decisions (buying situation). An Importance-Performance Analysis has identified a significant need of improvement. Based on a comprehensive literature review, this is due to a missing link between different existing TLC methods and the various buying situations. Numerous methods with different degrees of accuracy and complexity have been described, but the specific industry in which a method has been empirically tested does not determine the usefulness of a certain method. Existing research assumes, explicitly or implicitly, that its method is applicable in all purchasing contexts. De Boer et al. [11] have already highlighted an insufficient effort in identifying the most appropriate method, but up to now little attention has been given to it. Supporting decision making in purchasing requires a differentiated approach to be able to maximize the effectiveness of the selection while respecting, at the same time, the amount of resources. In fact, the literature lacks some information of great significance.

In consequence, the authors aim to develop a typology for selecting an appropriate TLC method in different buying situations. Typologies identify multiple ideal types, each of which represents a unique combination of features that determine the suitability [12]. Typologies are well-established frameworks and have been developed for several different purposes: cooperations in supply chains [13], purchasing specialists' involvement in product development [14], sourcing types in China [15], organizational forms of cooperative purchasing [16] or buyer-supplier relationships [17]. Similar to this research approach, Roemer [18] developed a typology of models with which to assess customer lifetime values in buyer-seller relationships. She proposes the use of different models in different types of relationships. However, no study appears to be available that specifically examines TLC methods in relation to different buying situations.

This paper concludes a literature based identification of the relevant TLC methods as well as an empirical detection of the situational characteristics (factors) to define prototypical buying situations. The buying situations are developed with respect to specify the most appropriate TLC method. A multidimensional scaling approach is employed to place the situations in the typology. Based on the results of the analysis, the optimum TLC method for the various buying situations can be specified. Nevertheless, the last step is part of a currently conducted case study research project which would be going beyond the purpose of this research paper.

2. Literature review

Supplier selection is a theoretical and applied research area that continually receives attention in the literature from both purchasing and logistics perspectives. Choosing the right supplier is the most important decision a buyer makes [19]. Therefore, several researchers have emphasized the importance of the supplier selection process and the benefits deriving from a systematic and formal approach. Here, particular importance is attached to the Total Cost approaches, which consist of summarization and quantification of all or several costs associated with the choice of suppliers. The total cost concepts for supplier selection can be classified into two categories, namely Total Cost of Ownership (TCO) and Total Landed Cost (TLC). The TCO concept includes all quantifiable costs in the supplier choice that are incurred throughout the purchased item's life cycle [11]. Following Ellram [20], a distinction can be made between pre-transaction, transaction and post-transaction costs. In comparison, the TLC concept represents a subset of the TCO, which is focused on the supply chain. Because of its inherent complexity to quantify and monetize all supplier selection-related criteria at the same time, the TCO is neither suitable nor necessary as a supplier selection method for all types of purchases [21, 22]. This creates a major drawback in practice, with the

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