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Trade and Compliance Cost Model in the International Supply (Value) Chain*

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Introduction

Conducting an effective and efficient border compliance procedure is necessary to achieve safety and security, as well as to promote a country's competitiveness in the international trade. While the private organizations demand an efficient process to minimize their logistic cost (since they perceive border compliance process as a barrier for their goods' flow), government border agencies as public organizations have the interest to emphasize safety and security that often requires lengthy procedures. Though the ICT development through integrated data pipeline implementation in achieving those goals is very promising to apply, unfortunately, there has been no trade and compliance cost model that can be properly adapted as the cost-benefit evaluation framework.

The Model Visualization

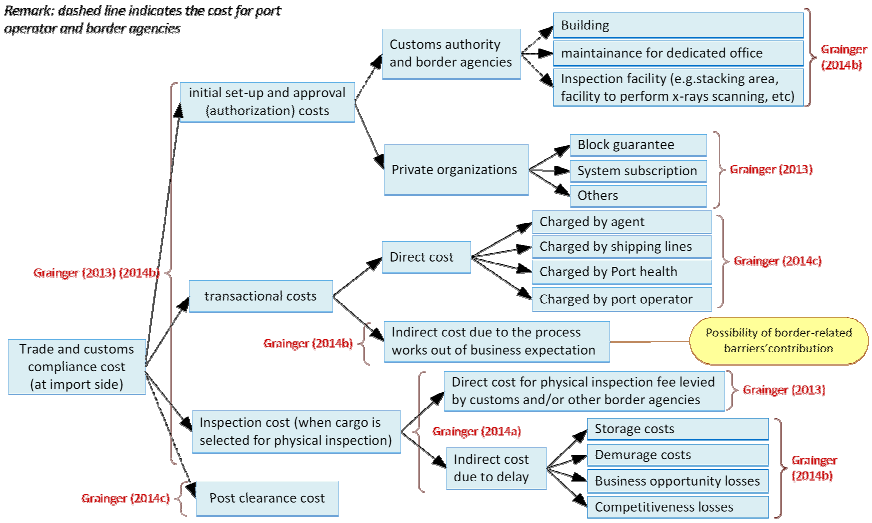

Figure 1 The visualization of trade and customs compliance model referring to Grainger's studies

The Trade Compliance Cost

In understanding the whole trade cost composition, a study from Anderson and van Wincoop (2004) is used. Their study suggested that the trade cost contributes at around 170% relatively to the production cost, which consists of transportation cost, border-related barrier cost, and the profit margin [1]. For our further cost model research, only the first two cost categories of transportation cost and border-related barrier cost that are interesting to explore. They are likely sharing a significant portion in the crossing border inefficiency, either directly or indirectly.

Since their study is quite general to see the trade cost from macroeconomic level, a more detail compliance cost study is needed in explaining the detail expense structure from the microeconomic level. Based on this need, Grainger studies are appropriate to cite. Contrast to the first trade cost model by Anderson and van Wincoop, Grainger's study goes more detail to the compliance cost components based on empirical study of the UK's meat imports.

In our research, besides combining several Grainger papers finding, the border-related barrier costs from the first model are also adapted. This such border-related barrier includes the regulatory policy (both tariff and non-tariff), language, currency, information, and security barrier. They are foreseen to share a contribution to the Grainger's transactional cost component.

This research also involves empirical validation to judge the model's accuracy in predicting relevant situation. For example, the impact of vessel arrival delay that is not well informed to the clients often leads to a considerable additional cost for importers. During the validation process and for the future application, visual model is needed to map the events and the possible impacts, which is not provided in the Grainger study.

We consider that the trade and compliance model is necessary to explain the cost structure in the customs border compliance process. The model can also be used as a framework reference in explaining the integrated data pipeline business model on its application, especially in reducing the inefficiencies within the logistic process, not limited to the use in the KPI mapping and the pilot project evaluation of Maersk Line's Shipping Information Pipeline (SIP).

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