RFID in Maritime Container Logistics

A Delphi Study on Participant Specific Benefits

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Asking experts for the relevance of RFID in a specific application area such as container logistics, some will call it a key technology, some will name it “gadget”. This book will contribute valuable data for this discussion, by identifying and evaluating the commercial benefit of RFID in container logistics across the different stake holders. Compared to other studies this work does not only focus on different benefits but also identifies and takes into account the varying degrees to which the participants within the transport chain benefit from the implementation of RFID in container logistics.

The work starts with a brief introduction to RFID technology and a description of relevant RFID applications in container logistics (license plate, shipment tag and eSeal), followed by a brief comparison of these applications. The book discusses the different benefits of RFID in container logistics. It distinguishes between RFID benefits that embrace technology-based benefits and RFID-based information benefits that comprise benefits based on information generated through RFID. The latter group is very difficult to grasp. To estimate the participant specific degree of benefit we therefore designed and accomplished a Delphi study. The two-stage Delphi study asks the experts about their opinion concerning 21 RFID-based information benefits. Both the paper-based and online questionnaire poll the degree of benefit for each relevant supply chain participant, i.e. the benefits for shipper, logistic service provider, consignee, container terminal and container owner. We also briefly explain the chosen methodology and its application, followed by a discussion of the aggregated and detailed results.

This study provides a valuable input for the discussion about the relevance of RFID in maritime container logistics and highlights the possibilities of using this technology in this application area.