



Thomas Will

RFID in Maritime Container Logistics

Participant-Specific Benefits and Process Optimization

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Due to the globalization of supply chains, container logistics has been one of the emerging industry areas over the past years. The resulting growth of container handling volume causes the existing container terminals to meet their capacity limits and terminal operators to search for technologies for increasing the throughput of containers considering given terminal capacities. This work identifies RFID as an appropriate technology and provides an overview of its potential advantages in container logistics. The identified RFID-based information benefits are discussed with logistics experts and a subsequently accomplished two-stage Delphi study discovers that RFID in container logistics provides several benefits with varying degrees for each transport chain participant.

Furthermore, the author analyzes all transshipment processes of a tri-modal transport chain and develops recommended actions in terms of accelerating and improving RFID-based process modifications. Subsequently, this work provides the results of a case study which measures the possible reduction of transshipment process times and discusses optimizations due to reduced labor requirements.

Since the implementation of process modifications in a real-world container terminal is a difficult and costly venture, the author develops a physical miniature demonstrator to map the above presented improvements and illustrates the integration of RFID in maritime container logistics to give an understanding of this technology and its applicability to logistics practitioners.

In summary, this work is an excellent contribution to the area of information technology and logistics. The book addresses researchers and students in the areas of business administration and computer science. In addition, managers and process owners in the fields of logistics and information technology can find valuable insights to make their businesses more efficient.

**With a Foreword by Prof. Dr. Thorsten Blecker,
Hamburg University of Technology (TUHH)**

Thomas Will studied business computer science at University of Trier. After finishing his Diploma studies in 2006, he worked as a research associate for the Institute of Business Logistics and General Management at Hamburg University of Technology. During this time, he handled multiple national and international research as well as industrial projects. He further worked on his doctoral thesis which deals with the benefits and optimization potentials of RFID in container logistics. The author finalized his thesis in September 2011.

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