



## **Propositions**

attached to the thesis

# **Managing External Temporal Constraints in Manual Warehouses**

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## I

Operational planning in manual warehouses with temporal constraints on processing incoming shipments or outgoing orders should not be done using models developed with assumptions based on highly automated warehouses.

*(This thesis)*

## II

In cross-dock facilities with high dock-door utilization, the location of mixed-mode dock doors is less important than in cross-dock facilities with low dock-door utilization.

*(Chapter 2)*

## III

Incorporating shift scheduling into order picking problems leads to a computationally more complex problem, but can help achieve large cost reductions.

*(Chapter 3)*

## IV

Flexible breaks for order pickers can lead to large cost savings for warehouses.

*(Chapter 3)*

## V

Even if transportation costs dominate order picking costs, planning transportation first and warehouse operations second may lead to infeasible plans if customer orders have hard temporal constraints.

*(Chapter 4)*

## VI

Practical experience with the problem setting leads to more impactful operations management research.

## VII

Optimization models should be designed with realistic assumptions as the main consideration rather than tractability.

## VIII

Personal care professions are less susceptible to the threats of redundancy caused by the rise of automation.

## IX

Perceived in-group superiority is a more powerful human reaction than the inclination for equality among all.

## X

An increase in philanthropy is an indicator for a higher level of economic inequality in the society.

## XI

Engaging hobbies lead to higher levels of happiness.