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Reverse Supply Chain Management Strategies. Lean, Agile and Leagile Strategies Implementation in the Electronic Industry

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- Over the last decades, the issue 'reverse logistics' has been moved much higher up the agenda.
- The purpose of this work is:
  - to explore the possibility for individual companies to incorporate forwards supply chain strategies into their reverse supply chains, in particular:
    - lean,
    - agile and
    - leagile strategies,
  - to examine under which circumstances each strategy should be applied respectively

Introduction

- The research:
  - is delimitated within electronic industry
  - focuses on commercial returns for repairs and maintenances.
- Question to be answered:
  - *Is there a pattern how companies ought to choose business strategies used in the reverse supply chains for achieving and keeping their efficiency and effectiveness?"*
- Empirical data:
  - collected through a number of interviews with electronic retailers, revealing the current situation of commercial returns in electronic industry.

Theoretical framework

- Debates and studies concerning supply chain strategy have focused around two basic philosophies:
  - **lean and agile** supply chains,
  - but also around their mixture - **leagile doctrine**

Lean and Agile Supply Chains

Lean Supply Chains

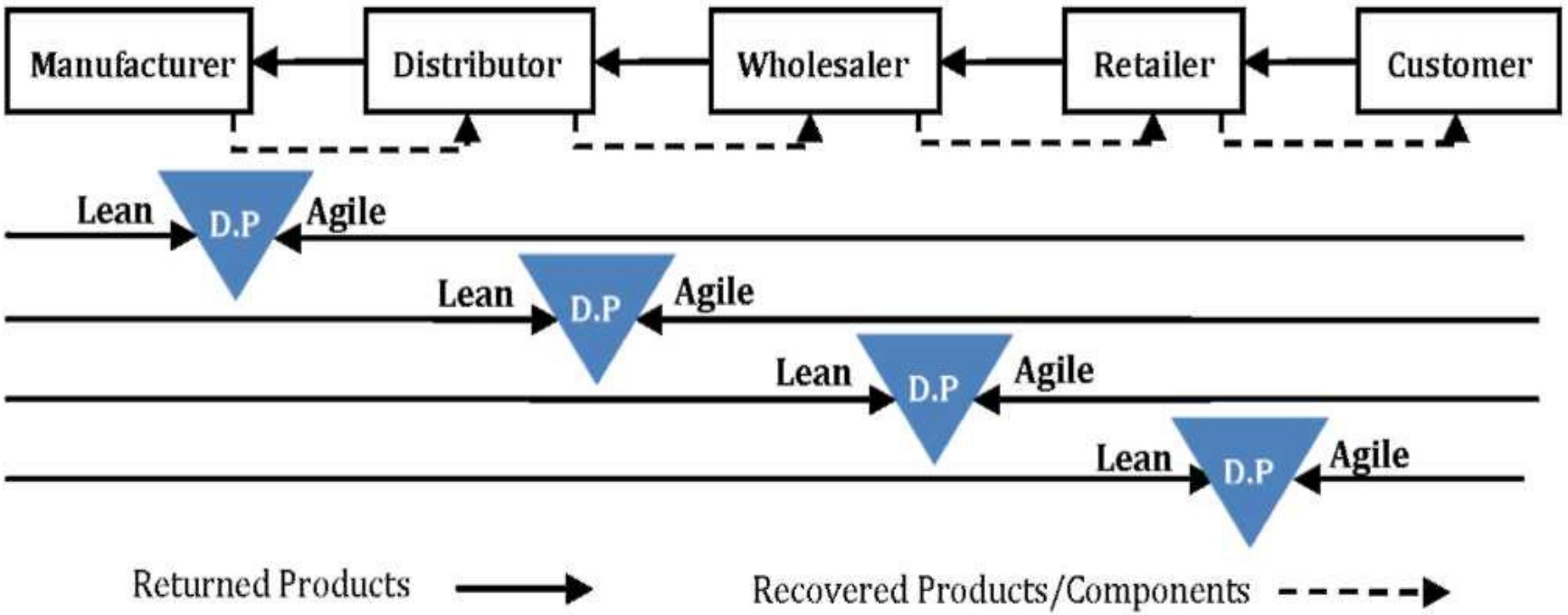
- is applied where the product request is highly constant and foreseeable, in order to eliminate
  - (1) all types of wastes within the network,
  - (2) cost cuts-off and
  - (3) efficiency ameliorations in the supply chain.

Agile Supply Chains

- is applied where the product request is neither constant nor foreseeable, and implies delivering wide-market products that are customized.
- has as scope the improvement of client services by quicker answer to their requests

Leagile Supply Chains

- Introduces a 'de-coupling' point (D.P.) into the network



Leagile Supply Chains

- The 'de-coupling' point (D.P.) into the reverse supply chain network:
  - symbolizes the application of delay or postponement strategy
  - acts as service places for products fixings and maintenances, having as a major purpose the ability to handle the fluctuated client requests
  - the transportation costs and location rental costs for repair places have been cut off,
  - extra operation costs and inventory holding costs have been added, which resulted in a high amount of savings from the leagile reverse supply chain structure

Methodology of the study

- Qualitative approach was seen as more suitable for this article, because:
  - it offers comprehensive descriptions of the present development of reverse supply chain from the theoretical and practical point of view in the electronic industry.
  - Semi-structured interviews, can point out unexpected and insightful data which will in turn enrich the empirical findings of this study

Empirical findings

- **Flanco International ltd.**
- Target:
  - increase client satisfaction and achieve efficiency and effectiveness of their company
  - the processes of the reverse supply chain in Flanco ltd. vary from case to case, but in general they can be categorized by:
    - product returns for refunding and exchanges (PRE), and
    - products for repair or maintenances (PRM).

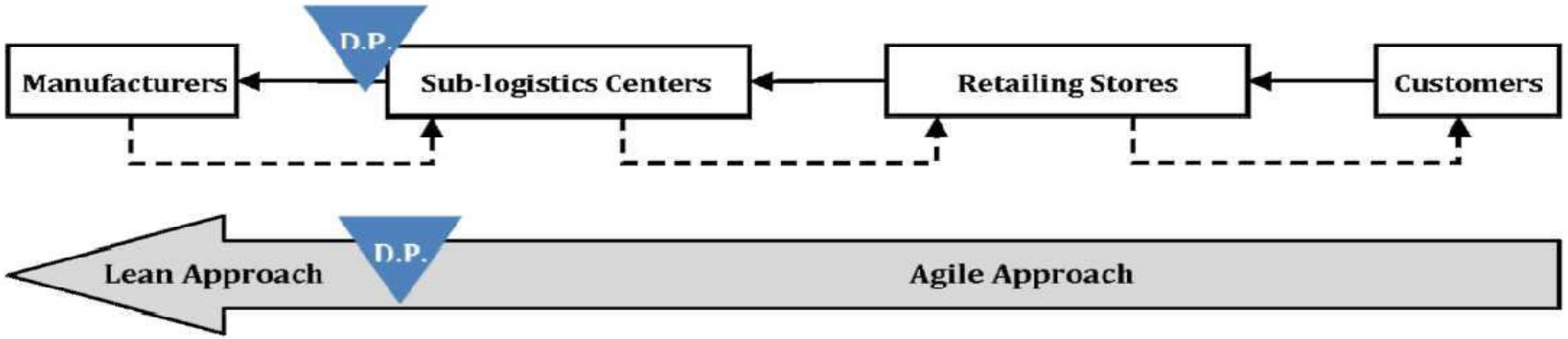
Empirical findings

- **Altex ltd.**
- Target:
  - offering to the clients more professional and trustable services
- Strategy that Altex uses in their reverse supply chain:
  - localization of its after-sale service. Accordingly, Altex is capable of answering to the product returns from end-customers for fixing and maintenance
    - within 24 hours from the complaint and
    - achieve the tasks within less than 48 hours

Implementation of Lean, Agile and Leagile Approaches

Flanco International ltd.

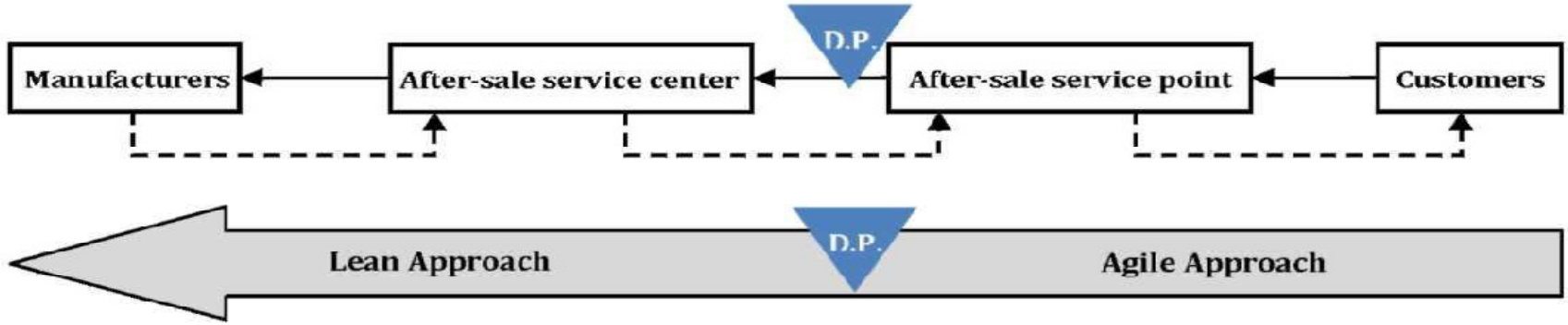
- A leagile reverse supply chain has been implemented in Flanco's reverse system, as can be seen in figure below, which implements a de-coupling point at the sub-logistics locations:



Implementation of Lean, Agile and Leagile Approaches

Altex ltd.

- Proposed a localization strategy over the commercial returns and set up a large number of after-sales service points in the entire country;
- Introduced a de-coupling point at the after-sale service location, as seen below:



Conclusions

- When choosing the proper strategies, the nature and features of the returns need to be carefully taken into account, including:
  - the market request predictability,
  - product life cycle, and
  - replenishment lead duration

  Product request predictable =>lean approach

  Unforeseeable requests and short lead time => agile supply chain (very quick response)

  Unforeseeable request and lead duration long =>leagile strategy

Conclusions

- Agile supply chain is the most appropriate strategy for the products with:
  - a short life cycle and
  - short replenishment lead duration (features the analyzed commercial returns in the electronic industry)
- A leagile reverse supply chain is more likely to be applied in practice, since it:
  - enables the retailing companies to diminish unnecessary transportation costs
  - achieves quick receptiveness to the clients' requests, and
  - realizes and keeps the efficiency and effectiveness of the whole supply chain.


THANK YOU!