Marketing the Cycle: Improving Reverse Flows in Open-Loop Supply Chains for Independent Remanufacturing

Introduction
Industries are seeking for material supply alternatives in order to address issues of increasing demand and an increasing awareness for environmental impacts. Also policy intervenes with the objective to reduce the environmental impact of end-of-life (EOL) products. At the EOL, the reuse of products is preferable from an economic and an environmental perspective due to reused resources. One strategy for reuse is remanufacturing (reman) which is widely used in different industries because the "as-good-as-new" specification of reman products increases their marketability. However, the reman market is experiencing supply issues of cores (EOL products).

Supply Challenge
Closing the loop from the EOL to reman is a challenging task. Core acquisition and the physical return add complexity to supply chains. Remanufacturers regularly use deposits to facilitate the reverse flow of cores. They charge a deposit for a spare part and repay it in exchange for a core. But deposit cannot solve all supply issues. Deposits, amongst others, ...
- Increase tied-up capital
- Increase administrative efforts
- Compete with the material value of cores.
For these reasons different supply strategies might be dominant in reman.

Research Motivation
Identifying reasons for supply issues motivates this research. Atasu et al. (2008) already mentioned that research regarding closed-loop supply chains should return to industry practise in order to uncover current practical issues instead of theoretically created problems.

From literature the use of deposits was derived as one major strategy for core supply. Though, a case study revealed interesting and somehow contradicting assumptions regarding the use of deposits to foster core returns. Identified discrepancies and their implications motivate the further research agenda.

Research Objectives
Remanufacturing competes with different markets for its supply. How can remanufacturer address supply issues through their procurement channels? Which influence has the business and legal environment on the remanufacturing market(s)?