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Implementation of circular economy in Danish companies

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The aim of this paper is to analyse what the main challenges for companies working with circular economy are, and how companies overcome these.

Through review of key literature in circular economy the study clarifies the theoretical foundation of the concept, its basic principles and the variety of business models that are based on circular economy. Based on our on-going studies in a range of Danish companies, we analyse how these companies operationalize the circular economy principles in a) identifying where to start their investigations, b) analysing the potentials of the most interesting business models and c) preparing for implementation of these business models. In particular, we examine the challenges in these processes and how the studied companies overcome these.

Our results show that the first challenge is that companies must, depending on their capabilities, trade and motivation, choose the circular economy principles that suit the needs and ambitions of the company best. A choice that requires both knowledge and resources, which are often not available in-house, especially in SMEs.

The next challenge is that analysing the potentials for integration of circular economy principles requires a new set of skills for many companies. These include a) a greater level of systems thinking, b) detailed understanding of the company's own product and its link with suppliers' and customers' products, c) expansion of interest in the value chain and its sub-supplier networks, d) formation of stronger partnerships within the existing value chain or formation of new partnerships with companies from outside it and e) understanding new ways of doing business with new revenue streams.

Although, integrating circular thinking has proved difficult to most companies in our study, we have found that many of the companies are able to develop the required new capabilities and mitigate the risks associated with this kind of business development. This is managed by initiating small-scale investigations of the business opportunities in which external support is often involved. The investigations focus on only a small fraction of the product portfolio and customer base, keeping the majority of the business out of scope and running as usual. A step-by-step approach, which may be relevant to other companies interested in developing and implementing circular business models.

Keywords: circular economy, implementation, circular business models, challenges