The economic impact of the circular economy

A study of the impact of the circular economy on the profitability in the Dutch Graphic and Arts sector

Author:	Emiel van Zoelen
Student number:	2559285 (VU) 10576738 (UvA)
Email:	Emiel_94@live.nl
Program:	Joint VU and UvA MSc in Entrepreneurship
Academic year:	2019/2020
Supervisor:	Prof. dr. E. Masurel
Date:	20-07-2020

Table of contents

Preface

Thesis written for the Masters program in Entrepreneurship. The copyright rests with the author. The author is solely responsible for the content of the thesis, including mistakes. The university cannot be held liable for the content of the author's thesis.

Abstract

The circular economy is a rising economic system in Europe. The system is introduced by legislation and regulations, which is a top-down strategy. However, this research focuses on the bottom-up transition towards a circular economy. Are there economic advantages of working circular and why should firms be concerned with the circular economy from the point of view of market-driven reasons? More specific this research is looking into the economic contributions of the circular economy on small and medium-sized enterprises in the Dutch Graphic and Arts sector. According to the existing theory, the main reason the circular economy will contribute to the profitability of firms is that there is an increase in the scarcity of raw materials. This increase of scarcity leads to rising prices and unpredictable supply fluctuations. Firms working with the concepts of the circular economy find ways to get around these uncertainties. By using waste as input for new cycles and extending the cycles of products and materials, they will be less dependent on the declining supply of virgin materials. Segments of the circular economy that counteract scarcity and improve resource productivity are cycling, product design, process design and the sharing economy. However, in this research, no significant evidence is found to confirm that the circular economy is helping to improve the economic performance of small and medium-sized enterprises in the Dutch Graphic and Arts sector. The absence of scarcity seems to be the most important reason for this. But even companies that do experience an increasing fluctuation in price and supply of materials show no significant improved economic performance. The traditional input of restorative materials and personalized products in the specific sector of this research might be the reason for this. Another reason is, is that the circular economy is relatively new and it has to develop more before it gets profitable. When there are more working examples of the circular economy, it will be easier to succeed for other businesses.

1. Introduction

Sustainability and the circular economy are a increasingly relevant topic in scientific publications. The circular economy is getting more and more attention from researchers (Merli et al., 2018); (D'Amato et al., 2017). One of the most important pioneers in the context of the circular economy is Kate Raworth. Kate Raworth (2017) describes the current economic model as one that only strives for economic growth. She argues that this cannot be sustainable in the long term and that the economy has to reach a maturity phase (like everything in nature) with economic stagnation. By indefinitely striving for economic growth, the boundaries of the earth will be reached and surpassed, resulting in irreversible degradation of different ecosystems. Important ecosystems that are already on the verge of surpassing or already surpassed critical levels are the nitrogen cycle and biodiversity loss (Rockström et al., 2009).

The most important reasons why the different ecosystems are in danger is the growing world population and the increasing prosperity in several parts of the world (Bastein et al., 2013 p.6). According to the Ellen MacArthur Foundation (2013 p.6), there will be 3 billion additional middle-income consumers by 2030 who will increase and overload the need for natural resources if the system does not change.

The topic of the circular economy is also relevant for scientific reasons. According to Korhonen et al. (2018), the circular economy has been introduced by practitioners like businesses and policymakers, so the scientific background of the subject is mainly unexplored so far. The already existing literature argues that two different strategies have to be combined to implement the circular economy (Lieder & Rachid, 2016). One is the top-down approach where change is introduced by regulations and legislation. The other strategy is bottom-up, where companies get deeper into the circular economy because it increases their competitiveness and their profits. The two approaches are related to each other. If governments for example change regulations or introduce subsidies associated with the circular economy, it will affect the bottom-up implementation. Nevertheless, this research will focus on the bottom-up implementation method.

The European Union makes the Circular economy an critical ambition and goal for the near future (Korhonen et al., 2018);(Bastein et al., 2013 p.4), and the Dutch government is also promoting and betting on the circular economy. While working on this article, the Dutch government introduced new grants for companies that stimulate small and medium-sized

enterprises to create circular collaborations with each other (RVO.nl, 2020). Therefore, it will become a more and more relevant topic in the Graphic and Arts sector in the Netherlands as well, which will be the context of this research.

The Dutch Graphic and Arts sector is a specific sector with a lot of small and medium enterprises (Masurel, 2007). The industry is struggling since the rise of digitalization, and this is one of the main reasons the industry is in decline (Teunen, 2015 p.22). On top of that, the economic crisis of 2008 accelerated this process. In addition to this decline of the Graphic and Arts sector, the industry is in an increasing aging process (Teunen, 2019). Those factors, in combination with the growing introduction of the circular economy, make it relevant for the entrepreneurs in the industry to see what potential there is for the circular economy concerning economic outcomes. This leads to the question for this research:

What is the impact of the circular economy on the economic performance of small and medium enterprises in the Dutch Graphic and Arts sector?

In the next part of this paper, the theoretical framework, the circular economy and its different aspects will be explained. The theoretical relation between the different aspects and their relevance for the economic position of SMEs will be the focus of that section. Thereafter, the method of this research will be elaborated and finally the results and their conclusions will be discussed.

2. Theoretical framework

In this part of the thesis, the circular economy will be explained. The different aspects, like cycling, design thinking and sharing economy and their relation to the competitive position of small and medium-sized enterprises will be shown. According to the theory, there is an increasing scarcity of resources and the circular economy can offer ways to bypass the negative consequences of this increase.

2.1. What is the circular economy?

The base of the circular economy is to change the system of production and consumption from linear to circular. The reuse of materials and product have to be maximized so raw materials can keep their value in a circular economy (Jonker et al., 2018). In the linear economy the materials are disposed at the end of the lifetime of the product which is unsustainable because resources will deplete (Korhonen et al., 2018);(Ellen MacArthur Foundation, 2013). In the linear economy the product is seen as waste and therefore the lifetime of a product is shorter than in the circular economy where the waste is used as new inputs (Fischer & Pascucci, 2017 p.3). Therefore, in a perfect circular system, the lifetime of the materials is indefinite.

The circular economy is considered necessary because the infinite growing economy leads to environmental degradation and running out of environmental resources (Raworth, 2017). Limits of the earth are being reached and surpassed and this can lead to irreversible damage to different ecosystems (Raworth, 2017);(Rockström et al., 2009). The idea that natural resources can be depleted is not from this century. Meadows et al. (1972) already wrote about the depletion of natural resources, degradation of the environment and the limits of growth. The circular economy is seen as the solution for sustainable development (Korhonen et al., 2018);(Merli et al., 2018);(Raworth, 2007);(Leider & Rashid, 2016). The circular economy is an approach which combines the pursuit of economic growth with environmental sustainability and economic development (Korhonen et al., 2018), by decoupling growth or revenues from material input (Ellen MacArthur Foundation, 2013);(Bastein et al., 2013 p.8);(Mendoza et al., 2017 p.526);(Fischer & Pascucci, 2017 p.3).

Two main concepts in the circular economy are resource efficiency and eco-innovation or design thinking. In Eco-innovation environmental aspects are considered in the product design and the development phase by creating a product in a way that it can be reused or