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PhD grant proposal

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B2B / Circularity / Digital technologies & AI

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<u>The doctoral work will focus on:</u>

Circularity (as a subset of sustainable practices) in the business-to-business context, with a specific focus on how digital technologies (including AI) are associated with circular practices of business companies and on the types of narratives that develop to support the cohabitation of circularity and digitalization.

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The Circular Economy is often described with reference to the works of the Ellen McArthur Foundation. The most recent definition states that CE is: “a system where materials never become waste and nature is regenerated. In a circular economy, products and materials are kept in circulation through processes like maintenance, reuse, refurbishment, remanufacture, recycling, and composting” (EMAF, 2025).

The circular economy has been identified as a key element of sustainable development (The European Commission, 2020; Bocken et al., 2017). Geissdoerfer et al. (2017) consider it “a condition”, or a “beneficial relation” or “a trade-off” for sustainability (p. 767). The circular economy has been variously described as an economy (Knight et al., 2025), a logic (Parida et al., 2019), a paradigm (Geissdoerfer et al., 2017), a concept (Mathews & Tan, 2011), a practice (Frishammar & Parida, 2019; Fanzo et al., 2023; Korhonen et al., 2018), an approach (Fanzo et al., 2023), or a system (Sairanen et al., 2024).

The circular economy has been encapsulated in various frameworks, including the 3R (reduce - reuse – recycle), 4R (reduce - reuse – recycle - recover) ; 5R (rethink – recover – repair - reuse - recycle) as well as more extensive frameworks (refuse – rethink – reduce – reuse - repair – refurbish – remanufacture – repurpose – recycle – recover) (Sihvonen and Ritola, 2015 ; van Buren et al., 2016; King et al., 2006; Brennan et al., 2015; Ghisellini et al., 2016). These different "R" frameworks are considered core principles of the circular economy.

Circular economy practices have been analyzed in relation to consumer behaviors, such as intentions to purchase circular products (Coderoni & Perito, 2020), behaviors required in a circular economy (Hazen et al., 2016; Machado et al., 2019), and factors influencing the acceptance and adoption of circular products and services (Camacho-Otero et al., 2020). In the B2B context, research has primarily focused on supplier companies' behaviors, such as circular business models (Fehrer & Wieland, 2021), circular supply chains (Aarikka-Stenroos et al., 2022), value propositions (Frishammar & Parida, 2019; Ranta et al., 2020), and the

nature of circular offerings (Spring & Araujo, 2017). More recently, a customer-oriented perspective on circular has been studied by Sairanen et al. (2024), who investigated the value perceived by business customers in circular offerings.

The role of digital technologies in the circular economy within a B2B context is an emerging area of interest (Ajmera et al., 2025; Kio et al., 2022; Neri et al., 2023; Okorie et al., 2018). Research has shown that CE leverages digital technologies to enhance knowledge of resource “location, condition, and availability” (Antikainen et al., 2018, p. 45), to support more efficient processes within companies (Kerin et al., 2019), and to facilitate inter-company collaboration in servitization business models. For example, Ertz et al. (2022) examine how various digital technologies contribute to product life extension. Huang et al. (2022) explore blockchain applications in circular supply chains. Karuppiah et al. (2024) analyze the role of emerging digital technologies in establishing circular supply chains. Kristoffersen et al. (2020) advocate for the concept of a "smart circular economy" and present a framework for integrating digital technologies to support circular economy adoption in companies.

Building on this background, the purpose of this doctoral work is to investigate circularity (as a subset of sustainable practices) in the business-to-business context, with a specific focus on how digital technologies and AI are associated with circular practices of business companies and on the types of narratives (Lazarevic & Valve, 2017; Leipold et al., 2021; Schoggl et al., 2020) that develop to support the cohabitation of circularity and digitalization.

The methodology of this research will involve both qualitative and quantitative methods. The PhD candidate will be responsible for:

- Conducting a literature review on circularity and identifying key theoretical perspectives on how sustainable practices develop in businesses
- Justifying the need to collect various sources of (big) data on circularity in B2B
- Defining a mixed-method research design to analyze these data;
- Identifying the main strategic orientations of B2B companies concerning circularity practices
- Analyzing the role of digital technologies in the development and support of circularity practices within B2B firms
- Identifying the different narratives that sustain these roles.

The candidate is expected to hold a Master of Science in business and management studies, to master qualitative research and to be also motivated by quantitative methods. An expertise in data science is a plus for this job – candidates without data science know-how should be interested in collaboration with data scientists and in learning the basics of quantitative data analysis.

The PhD candidate will work under the co-supervision of Prof. Catherine Pardo, Professor of Marketing, and Prof. Jean Savinien, Associate Professor of Data Science and of Mathematics, at emlyon business school within the graduate school in management studies at the University of Lyon.

About emlyon

emlyon business school trains "makers", in other words people able to explore alternative futures, by placing the hybridization of skills and social & environmental responsibility at the core of its training programs.
Scientific research is at the very heart of emlyon business school's strategy to contribute to business and society. It is the innovative cornerstone of the school's past and present success and shall remain so in the future. It is a key aspect of the school's added value, providing the foundation for its international credibility and reputation. Research expands the curiosity, skills and knowledge of our faculty members and, in turn, benefits our program participants. Our research strengthens the Faculty's ability to achieve its mission. Moreover, our research enables the school to provide its partners with a critical and systematic thinking combined with the very latest knowledge and real-world impact.

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