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Marburg Institute
for Cooperative Studies

Universität
Marburg

MSc Thesis in Data Analytics | Computer Science

Data Science Meets Corporate Social Responsibility:
Comparing Reporting Practices in Europe and the US

Corporate Social Responsibility (CSR) reporting—whether mandatory or voluntary depending on the country—has become one of the most dynamic fields of corporate disclosure worldwide. Unlike traditional financial reporting, CSR reporting focuses on **non-financial key figures** that describe a firm's environmental and social impact. Its rise is driven not only by shifting societal values that demand more sustainable business practices, but also by growing investor expectations. Today, investors increasingly require companies to demonstrate credible environmental and social strategies in response to stricter global regulations, helping them build long-term resilience and value for both shareholders and broader stakeholders. To standardize this type of information, a range of national and international reporting frameworks has emerged. Many of these frameworks are published by private institutions but have gained global influence. The most prominent is the Global Reporting Initiative (GRI), developed with partners such as the UN Environment Program. The GRI framework—now often reflected in national standards—is used extensively across Europe and the United States and provides a broad catalog of sustainability criteria while still giving companies considerable flexibility in how they apply these standards.

This flexibility creates an interesting link to **corporate governance**. Reporting outcomes—i.e., what companies actually disclose—are shaped by factors such as ownership structure, board composition, and strategic and financial decisions made by managers. The relationship is straightforward: while managers prepare financial and non-financial reports, the firm's governance system influences both their discretion and the incentives they face when deciding what to disclose. Although many studies have examined the determinants of CSR disclosure using traditional econometric methods, research using modern data science approaches, including machine learning and AI-based techniques, remains limited. These methods have significant potential to uncover more nuanced patterns in disclosure behavior—patterns that standard models might miss.

This provides the starting point for the research projects in this area. Using a dataset on CSR reporting from Germany, the US, and various other European countries spanning more than 20 years, the thesis aims at exploring how corporate governance shapes reporting outcomes. The thesis will apply **advanced data analytics tools**, compare their results to traditional econometric findings, and evaluate whether new techniques yield

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deeper insights into disclosure behavior. Put differently: The thesis compares traditional econometric analysis (predominantly based on various regression models) with novel AI analytics in evaluating corporate social responsibility reporting outcomes.

This topic is ideal for students in **Data Science** and **Computer Science** who are interested in real-world business applications. It is equally accessible to students in **Business** and **Economics** interested in sustainability, corporate governance, and data analytics. In both cases, however, the intended comparison requires detailed knowledge of **AI analytics** and a solid conceptual understanding of **traditional (regression-based) data analysis** and its applications. The MSc thesis may be written in either German or English.

You can generally start the thesis at any time. If you are interested, please contact **info@ifg-marburg.de** for further information or to schedule a meeting.

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