**Leveraging web data to inform Industrial Classifications and capturing economic dynamics**

Wouter Mostard, Veronika Vilgis, Bastiaan Zijlema

Presented by

Dr. Veronika Vilgis, Head of Insights, Dataprovider.com

In an era characterized by rapid technological advancements and continuous economic evolution, traditional industry classification systems are increasingly challenged to capture the nuanced dynamics of contemporary economies. Such limitations become evident when considering the existing frameworks like the NACE or SIC systems. Web data, specifically information from business websites, provides valuable information about companies’ activities as well as any changes in these activities over time. In a case study we focus on the city of Eindhoven, a thriving technology hub in the Netherlands. A significant proportion of enterprises in this region predominantly falls under SIC's Major Groups of Business Services (73) and Engineering, Accounting, Research, Management, and Related Services (87). Using text extracted from business websites and applying topic modeling techniques, we uncover relevant subcategories that are not well-represented in current industry classification systems such as, for example, businesses specializing in digital marketing or services relating to green energy. At scale and when continuously collected web data can help identify real-time business activities and track the emergence of novel industries across both time and geographical spaces. Drawing from these insights, we propose a hybrid model for industry classification. This model combines a top-down approach for determining ‘fixed’ broad categories and a bottom-up, big data driven method to identify 'flexible' subcategories. Such a methodology may be better suited to capture the dynamic nature of the economy and the digital economy in particular. By embracing innovative methodologies and integrating real-time data sources, it is possible to develop a classification system that is both contemporary and anticipatory, ensuring relevance in an ever-evolving economic landscape.