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## ABSTRACTS

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<https://doi.org/10.22306/atec.v10i1.190>

Received: 04 Dec. 2023; Revised: 28 Jan. 2024; Accepted: 15 Feb. 2024

### **Bibliographic research on the linkages between intellectual capital and Industry 4.0**

(pages 1-10)

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**Keywords:** intellectual capital, Industry 4.0, innovations, co-occurrence and co-authorship, bibliographic research.

**Abstract:** The modern world is changing rapidly. A new knowledge-based economy pushes companies and countries to pay attention not only to the products but also to the intellectual capital. This paper uses a bibliometric study to map the conceptual approach of the Relationship between intellectual capital and Industry 4.0 for 1980 – 2022. For this study, we used the Web of Science as a main database for data collection. During the period 1980 – 2022, we filtered 24 671 records for our final sample. Collected data were analysed with descriptive statistics, co-occurrence analysis, co-authorship and citation analyses. VOSviewer was used for further visualisation of results. As these linkages are not well understood yet, this paper has added value to developing these relationships from a bibliographic point of view.

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<https://doi.org/10.22306/atec.v10i1.191>

Received: 05 Dec. 2023; Revised: 18 Dec. 2023; Accepted: 24 Jan. 2024

### **Assessing business readiness for Industry 4.0: A bibliometric analysis of research trends**

(pages 11-21)

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**Keywords:** Industry 4.0, enterprise readiness, maturity models, bibliometric analysis.

**Abstract:** This research provides a comprehensive analysis of the state of readiness assessment for enterprises in the context of Industry 4.0. It examines the most influential authors, countries, and journals in this field, identifies key research themes, and explores the evolving landscape of Industry 4.0. By bibliometric analysis, this study uncovers the intricate network of co-authorship and co-citation among researchers, journals, and countries. The analysis underscores the dominance of China in terms of both publication volume and citation impact, driven by its strategic "Made in China

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2025" plan. The United States and India also make substantial contributions, reflecting the global nature of Industry 4.0 research. The key themes in this area include digital transformation, IT innovations, production, and supply chain management. This study pinpoints three distinct clusters of journals, demonstrating the multidisciplinary nature of Industry 4.0. In addition, a co-occurrence analysis of keywords highlights the most prevalent themes, including Industry 4.0, frameworks, big data, and performance. This research offers valuable insights into the research landscape, informing scholars and industry stakeholders of key players, trends, and emerging areas in assessing enterprise readiness for Industry 4.0.

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<https://doi.org/10.22306/atec.v10i1.192>

Received: 06 Dec. 2023; Revised: 15 Feb. 2024; Accepted: 10 Mar. 2024

## **Indicators of industry and their prediction abilities of German business cycle** (pages 23-30)

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**Keywords:** industry, business cycle, prediction, cross-correlation, Germany.

**Abstract:** Industry forms an important part of the German economy and its development has a significant impact on the overall economic cycle of the country. The aim of the contribution is to identify industry indicators that would be able to predict the future development of the economic cycle in Germany. For the purposes of creating a composite indicator, the predictive capabilities of 170 indicators from various areas of industry for the quarters 2000-2022 from the European Commission database were examined. The leading capabilities of the indicators were investigated using methods such as the Hodrick-Prescot filter to select the cyclical component of the time series and cross-correlations using the Pearson coefficient to determine the relationship to the economic cycle of Germany. The industry indicators that have the highest level of predictive ability in relation to Germany's GDP include Employment expectations over the next 3 months, Assessment of the current level of stocks of finished products, Competitive position on foreign markets inside the EU over the past three months and an Industrial confidence indicator.

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<https://doi.org/10.22306/atec.v10i1.193>

Received: 07 Dec. 2023; Revised: 08 Feb. 2024; Accepted: 05 Mar. 2024

## **The impact of intangible assets on market valuation: evidence from EURO STOXX 50 companies** (pages 31-35)

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**Keywords:** intangible assets intensity, market valuation, profitability, cash holdings, panel regression.

**Abstract:** The impact of a company's intangible assets on its market value has been a topic of great interest. Many studies have focused on various factors, such as industry, size, age, indebtedness, and profitability of companies, which influence decisions regarding the disclosure of information about intangible assets. This study examines the role of intangible assets

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in the valuation of a company's market value and takes into account other firm-specific characteristics. Our analysis was conducted on a sample of 50 publicly traded companies that are part of the EURO STOXX 50 index and come from eight countries in the eurozone: Belgium, Finland, France, the Netherlands, Ireland, Germany, Spain, and Italy. The study covered a five-year period from 2018 to 2022. The results of our study indicate that intangible assets have a significant impact on a company's market value. In conclusion, our study highlights the growing importance of intangible assets in today's economy and their significant influence on a company's market value. Investors can benefit from a deeper understanding of these factors, aiding them in investment decisions. For companies, the strategic management of intellectual assets is essential for long-term success. As the importance of intangible assets continues to rise, further research in this area is necessary to gain deeper insights into their impact on the business world.

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<https://doi.org/10.22306/atec.v10i1.196> Received: 03 Feb. 2024; Revised: 08 Mar. 2024; Accepted: 25 Mar. 2024

## Industry 4.0 critics and comparative review – case study

(pages 31-43)

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**Keywords:** Industry 4.0, Internet of Things, data analytics, automation systems, new age technologies.

**Abstract:** Advancements in analytics and IoT have enabled businesses to see more clearly throughout their supply chains. With this increased connectedness, supply chain management, wait times can be reduced, and logistics may be enhanced. Industry 4.0 has two effects on workers who are human. over the one hand, this enhances output and efficiency as machines take over tasks that humans can no longer accomplish. New skills and knowledge are nevertheless required as human tasks change. Regarding the need for new skills and knowledge, industry 4.0 is also having an impact on human labour. As a result of Industry 4.0, workplaces and the skills required for success are evolving. The main consequence is the need for new knowledge and abilities.

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