Press release

ESSEC Business School unveils the results of the "Digital Disruption Matrix 2025", a digital barometer

Generative AI dominates while renewable energies resist AI.

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The Digital Disruption Chair at ESSEC Business School has just published its first "Digital Disruption Matrix 2025," an innovative strategic tool that reveals the impact of six transformative digital technologies on 11 industry sectors. This in-depth analysis shows the impact of generative AI, with a disruption score of 89.45/100, nearly double that of the second-ranked technology.

The aim of this annual barometer is to understand the impact of each technology by sector and to ensure comparability between sectors and between years. This matrix provides an objective reference framework for tracking the evolution of technological disruptions over time.

The six technologies analyzed were selected by a panel of 40 experts from the academic and professional worlds. The scores were established based on the volume and trend of academic publications, the number of patents filed, and the average number of citations per publication.

1. **Generative AI**: 89.45/100 - The most disruptive technology in the study despite its relatively recent emergence.
2. **Descriptive AI**: 49.04/100 - The fundamental backbone of technologies, dominant in terms of academic publications and patent filings.
3. **Renewable Energies and Storage**: 40.42/100 - This technology maintains its position with a strong volume, a high citation rate, and a major intersectoral impact.
4. **Quantum Computing**: 32.47/100 - This cutting-edge technology, sometimes misunderstood, is seen as a vector for future transformation.
5. **Robotics and Automation**: 19.63/100 - It benefits from the increased accessibility of AI and is viewed as a means to offload low-value daily tasks.
6. **Blockchain**: 12.04/100 - With stable publication and citation volumes over time, its real impact remains below the expectations of professionals, despite the recent resurgence of interest in cryptocurrencies.

"A paradox revealed by our study is that despite the spectacular rise of generative AI, it has not yet reached the impact of renewable technologies, and both remain far from the implementation levels of traditional AI. The analysis of volume, trends, and impact allows us to put the media frenzy surrounding certain technologies into perspective," notes Jan Ondrus, Professor of Information Systems and Chairholder of the Digital Disruption Chair at ESSEC.

This is the first time that a study of this scope analyzes the combination of over 300 global professional publications and all scientific articles and patents published in the last five years. It also gathers the perceptions of 1,000 professionals from all over the world.

The first edition of the Digital Disruption Matrix has drawn eight significant conclusions across several sectors:

Generative AI, unprecedented growth - The trajectory of publications on Generative AI shows the steepest growth curve in our database over the past five years, far surpassing that of Blockchain at its peak during the crypto boom in 2021.

The Paradox of Descriptive AI - Descriptive AI (or traditional non-generative AI), encompassing machine learning, statistical analysis, and pattern recognition, remains the most entrenched technology in business processes and helps newer technology function, despite less media buzz.

AI as a Vector for Robotization - The ability to create synthetic training environments through AI drastically reduces the entry costs of robotization.

Energy: The New Bottleneck of Innovation - The limitations of energy storage have replaced Moore's Law as the main constraint on technological innovation.

Automotive Sector: Techno-Pessimism? - Although deeply affected by digital transformation, the automotive sector exhibits the strongest skepticism toward emerging technologies, with 22.7% regarding blockchain negatively.

Generative AI Divides Luxury Professionals - The luxury sector is ambivalent towards generative AI, either viewing it as the most positive and negative disruptive technology, with few neutral opinions.

Real Estate: Champion of Renewable Energy - The real estate sector shows remarkably high enthusiasm (91.1% positive opinions) towards renewable energy technologies, surpassing figures from the energy sector.

The "Waiting for Quantum" Effect - 30 to 43% of professionals in each sector express a neutral sentiment towards quantum computing, revealing widespread uncertainty about when and how to prepare for its impact.

"By combining the analysis of extensive scientific data, rarely studied together, with insights from field professionals, we offer an objective mapping of technological transformations. Our ambition is to take a step back from trends and to the debate around current trends by providing a long-term perspective centered on a crucial question: what is the real value and impact for each sector? This first edition lays the groundwork for a tool that will be enriched annually, allowing us to track the evolution of disruptions across the economy," explains Jérémy Beaufils, Executive Director of the Digital Disruption Chair at ESSEC.

The Digital Disruption Matrix is supported by the L'Atelier BNP Paribas, which shares data on patents and academic publications and by SIA, which shares its AI technologies and the expertise of its consultants.

About the Digital Disruption Chair

The Digital Disruption Chair at ESSEC trains tomorrow's managers and leaders for them to be capable of driving digital transformation by reconciling technological innovation (AI, blockchain, Web3, Quantum) with strategic management. Through a pedagogical approach that combines theoretical courses, immersive experiences with tech players, and concrete projects mentored by industry partners, it explores the impact of technologies on value creation across all sectors of the economy.

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ABOUT ESSEC BUSINESS SCHOOL

ESSEC, founded in 1907, is one of the world's top management schools and holds the "triple crown" accreditation from EQUIS, AACSB and AMBA. With 7,855 students; a faculty comprised of 194 professors including 25 emeritus professors, in France and Singapore, recognized for both the quality and influence of their research; a wide range of management training programs; partnerships with the world's best universities; and a network of 74,000 alumni, ESSEC continues to foster a tradition of academic excellence and a spirit of openness in the fields of economics, social sciences and innovation. In 2005, ESSEC opened a campus in Asia. ESSEC's operations in Asia Pacific, strategically located in Singapore, present the perfect foothold for ESSEC to be part of the vibrant growth of Asia and to bring its expertise to the expanding region. Additionally, in 2017 ESSEC opened a new campus in Rabat, Morocco. ESSEC's international expansion allows students and professors to study and understand the economic forces at work in the different regions of the world.