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TRENDS IN DATA ANALYTICS: EMPOWERING BUSINESS, EDUCATION, AND POST-WAR RECOVERY IN UKRAINE

The 21st century is characterized by unprecedented growth of digital information and data-driven transformations across all sectors of society. In this context, data analytics has become a strategic tool for innovation, sustainable development, and evidence-based decision-making. According to the International Data Corporation, by 2025 humanity will generate more than 463 exabytes of data daily, which creates both opportunities and challenges for businesses, governments, and educational institutions [1]. For Ukraine, which is currently undergoing post-war recovery, the implementation of innovative data analytics solutions is especially relevant for rebuilding industries, strengthening human capital, and modernizing the education system.

The purpose of this study is to analyze current global trends in data analytics and highlight their potential applications in business, education, and human resource management (HRM) in the context of Ukraine's recovery. The relevance is twofold: first, to ensure the competitiveness of Ukrainian enterprises in a digital economy; second, to integrate data literacy and analytics competencies into the educational process to prepare professionals capable of leading the transformation of organizations and society.

Data analytics is not merely a technical practice, but a driver of innovation. It enables the design of new business models, supports agile decision-making, and fosters digital entrepreneurship. For example, prescriptive analytics applied in logistics has enabled companies such as UPS to optimize delivery routes, reducing CO_2 emissions and saving millions of dollars annually. In Ukraine, similar approaches may be applied to optimize supply chains, humanitarian aid distribution, and reconstruction projects. Moreover, the use of artificial intelligence (AI) and machine learning algorithms in analytics opens new horizons for predictive modeling in agriculture, energy, and healthcare, which are strategic industries for national recovery.

The rapid growth of the digital economy highlights the need to adapt educational systems to new requirements. In Ukraine, universities and vocational institutions must integrate courses on data analytics, machine learning, and digital ethics into their curricula. The aim is to form specialists with interdisciplinary competencies that combine technical knowledge, managerial skills, and ethical awareness. Florence Nightingale's historical example of using data visualization to reform military medicine demonstrates that data skills can have a transformative effect on society. Today, educational innovations, such as digital learning platforms, dashboards for monitoring student performance, and learning analytics, are powerful tools for improving the quality of education [2].

Post-war reconstruction requires rational allocation of resources, transparent governance, and effective monitoring of projects. Data analytics provides mechanisms to track progress, evaluate efficiency, and prevent corruption. For example, diagnostic analytics can identify the reasons for project delays, while predictive analytics can forecast the demand for materials and labor in reconstruction projects. In HRM, analytics is essential for reintegrating internally

displaced persons into the labor market, supporting veterans' employment, and addressing psychological well-being. Data-driven decision-making ensures that recovery strategies are based on facts and not assumptions, which is vital in conditions of limited resources and high uncertainty.

Global and Ukrainian Case Studies:

– Netflix demonstrates the role of analytics in customer personalization, which can inspire Ukrainian companies to apply similar tools in cultural and creative industries to expand global reach.

– Kickstarter used analytics to implement a four-day workweek, proving that evidence-based HR decisions improve well-being and productivity. Ukrainian enterprises could pilot similar approaches to reduce burnout and support human capital resilience.

– Ukrainian digital platforms such as *Diia* illustrate the potential of integrating data services into public governance. The next step is to apply advanced analytics to expand e-governance, improve public service delivery, and strengthen trust in institutions [5].

But along the way, Ukraine may face ethical and legislative challenges. With the increasing use of predictive and prescriptive analytics, issues of data privacy, algorithmic bias, and compliance with GDPR become critical. For Ukraine, alignment with European standards of data protection is an integral component of integration into the EU digital single market. Ethical analytics requires transparency, accountability, and public trust to ensure that technological progress serves social well-being.

Data analytics is a cornerstone of innovation, educational transformation, and sustainable recovery. For Ukraine, the integration of analytics into business, HRM, and education will not only accelerate post-war reconstruction but also strengthen the country's position in the global knowledge economy. The study emphasizes that data literacy must become a core competence for the next generation of professionals, and that analytics-based decision-making should be the guiding principle for both private and public institutions.

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