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The chapter discusses the transformation of human resources (HR) in the era of Industry 5.0, highlighting the importance of digital HR implementation in driving business growth. It discusses the strategic integration of digital tools, analytics, and automation within HR functions to improve workforce agility, productivity, and engagement. This chapter discusses the benefits of digital HR solutions, including talent acquisition optimization, performance management enhancement, learning facilitation, and employee experience enrichment. It emphasizes the importance of organizational agility, change management, and continuous innovation for successful adoption. By aligning HR strategies with Industry 5.0 needs, businesses can drive sustainable growth, foster innovation, and maintain a competitive edge in the global marketplace.

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The integration of digital technologies has significantly transformed the way organizations operate, especially in the field of human resources (HR). This chapter explores the importance of creating effective HR strategies that are tailored to the modern workplace, focusing on navigating the digital frontier. By utilizing digital tools, HR professionals can streamline processes, improve employee engagement, and optimize talent management practices. The chapter also discusses the challenges and opportunities of digital transformation in HR, including recruitment, on-boarding, performance management, and employee development. It provides actionable guidance for HR leaders to harness digital technologies to create agile, resilient, and future-ready workplaces.

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This chapter delves into the role of digital HR in developing economies, focusing on the intersection of technology, human resources, and economic development. It highlights the opportunities and challenges of digitalization, such as HR leveraging digital tools to enhance workforce efficiency and foster innovation. The chapter also discusses the implications of Industry 5.0, emphasizing the integration of AI, automation, and IoT in reshaping HR practices. The potential benefits of digital HR include improved talent management and increased productivity, but also address challenges like infrastructure constraints and skill gaps. The chapter forecasts trends in Digital HR specific to developing economies, aligning with Industry 5.0 principles. The chapter explores the effects of digitalization on workforce dynamics, organizational structures, and the economy, addressing challenges like digital literacy, data privacy, and socio-economic disparities. It highlights the potential of digital HR in bridging skill gaps, promoting inclusive growth, and stimulating innovation.

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The incorporation of digital human resources (HR) technologies has emerged as a key force behind organizational change in today's quickly changing global environment. This chapter takes a close look at the potential and problems that come up when deploying digital HR technologies in the special environment of developing nations. The first point made in the chapter emphasizes how transformative digital HR solutions can be, from easier hiring processes and more employee engagement to data-driven decision-making. The chapter then turns its attention to emerging nations, where issues including socioeconomic inequality, poor infrastructure, and varied cultural values create particular obstacles to the adoption of technology. An in-depth examination of roadblocks such as a lack of digital infrastructure, a lack of technical awareness, and reluctance to change within established organizational structures reveals the central topic of obstacles. These elements not only prevent the seamless integration of digital HR systems but also force the creation of context-specific implementation strategies. The chapter also highlights a range of promising opportunities among these difficulties. Developing nations may transform HR procedures and promote more inclusivity and accessibility by embracing digital HR solutions. The opportunity to enhance personnel management and spur productivity and creativity lies in improved data analytics

and automation. The chapter also emphasizes the importance of digital platforms in democratizing HR services and enabling both businesses and employees to succeed in a changing labor market. This chapter offers a thorough framework for comprehending the complex dynamics of implementing digital HR technology by drawing on a variety of case studies and scholarly ideas. In order to fully realize the revolutionary potential of digital HR technologies in the distinctive setting of developing countries, it needs a sophisticated approach that strikes a balance between technology improvements and local contextualization. This chapter is an excellent resource for scholars, practitioners, and policymakers navigating the uncharted territory of digital HR adoption in various socio-economic contexts as firms try to remain competitive and relevant.

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The circular economy is a sustainable approach in the manufacturing sector that focuses on long-lasting product design, remanufacturing, recycling, and waste reduction. This approach optimizes resource utilization, reduces reliance on finite resources, and minimizes waste generation, contributing to environmental conservation and mitigating climate change's effects. Digital technologies and data analytics play a crucial role in promoting a circular economy in manufacturing supply chains, with IoT, AI, and blockchain enhancing visibility, traceability, and collaboration. The challenges of implementing circular economy principles are discussed, along with the potential economic benefits of sustainable production and consumption patterns. Case studies from successful manufacturing companies are also examined.

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This study investigated the factors affecting employee retention in the Indian automobile industry in the era of Industry 5.0, including the factors such as organizational culture and climate, reward recognition and pay, leadership style and quality, job security, work-life balance, training and development, autonomy, promotions, and career growth. The convenience sampling technique was used to collect data from 141 employees of selected automobile companies using a self-administered questionnaire. The data were analyzed by employing multiple regression and multivariate analysis of variance (MANOVA). The

findings of the study revealed that all the selected factors significantly affect employee retention. Training and development is the most influencing factor affecting employee retention in the Indian automobile industry. Additionally, the demographic variables taken in this study have demonstrated differential effects in context of the factors affecting employee retention. This study has also offered insights to automobile industry on Industry 5.0 interventions for employee retention.

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Industry 5.0, the next step in industrial development, seeks to combine the knowledge and insight of humans with the productivity, intelligence, and accuracy of machines to produce goods that are more cost-effective and more popular with end users than those produced by Industry 4.0. The goal of Industry 5.0 is to increase production and streamline the delivery of customized goods through the use of a suite of cutting-edge technology and apps. This chapter aims to give a foundational overview of Industry 5.0 by outlining some of the possible uses and enabling technologies of this emerging sector. First, the study defines Industry 5.0 and explains numerous new ideas from the point of view of several experts in the field. The study then details some of the possible applications or uses of Industry 5.0, including smart education, smart manufacturing, intelligent healthcare, supply chain management, supply chain management, and cyber-physical systems.

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In the ever-evolving digital landscape, the integration of artificial intelligence (AI) into information and communication technology (ICT) and e-services is paramount. This chapter delves into the profound influence of AI on user experience, security, and scalability within digital services. It sheds light on both the hurdles and prospects presented by AI-driven strategies, underscoring the importance of adopting a holistic approach that encompasses technical, ethical, and regulatory dimensions. By offering valuable insights, this chapter guides organizations seeking to harness AI's capabilities in digital services, stressing the significance of a thorough and inclusive strategy.

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Blue wind energy combines offshore wind energy with cutting-edge technology, addressing sustainability in urbanization. This chapter investigates its application, focusing on integrating blue wind energy, AI, and IoT for smart energy management. Urgently needed due to urban energy demand and environmental concerns, conventional methods fall short. Blue wind energy, with AI and IoT, offers a sustainable alternative, but integration challenges exist. The amalgamation of blue wind energy, AI, and IoT presents a groundbreaking solution to urban energy needs. Urbanization necessitates sustainable energy solutions, with blue wind energy utilizing offshore wind resources effectively. Offshore wind farms near cities offer better energy production but require complex energy management systems for full potential realization.

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Any organization's growth and stability depend on its recruitment and selection process, which attracts top talent. HR metrics quantify and rate human resource processes. This study aims to integrate human resource metrics into the recruitment and selection process throughout. In this exploratory study, human resource managers discuss metrics and their use in evaluating recruitment and selection procedures. Manufacturing HR managers are being surveyed about the KPIs in question. Most HR managers (out of 15, at least 10 HR managers) have reported nine metrics as actively used in their firm, while a minority (out of 15, less than 10 HR managers) have reported 10 metrics as rarely used and six calculated metrics. This chapter will interest researchers and practitioners who identify, design, and deploy metrics to measure an organization's recruitment and selection process. The chapter identifies metrics to demonstrate how metrics encourage HR practitioners to adopt and measure skilled workforce in recruitment and selection. This contributes to the HR metrics debate.

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The current study tries to explore the relationship between training of employees and job performance in retail stores in Industry 5.0. It introduces a conceptual framework designed to interplay between training initiatives and employee job performance. On the other hand, chapters provide insights for practitioners and researchers in people analytics. Data analysis highlights the importance of employee performance in Punjab's diverse retail landscape and also emphasizes the need for effective training to meet customer demand and seasonal market changes, ensuring consistent customer satisfaction. The literature review provides insights into employee training's impact on job performance while focusing on the retail sector. Moderation analysis shows how training initiatives influence performance outcomes. In this chapter, the authors introduce a comprehensive conceptual framework that synthesizes literature and real-world illustrations and interplays between training and performance variables within the retail sector of Punjab. The analytical approach is used to establish a basis for future analysis and investigations, including of the approaches used for data collection. The data has been analyzed using 138 responses. The smart pls has been used to generate model analysis. The chapter provides practical implications for a conceptual framework for retail organizations and offers recommendations for optimizing employee performance through training programs and strategic decision-making in people analytics. In this chapter, the authors explain the role of attrition and attraction and analyze the moderating effects of training initiatives on the 'job performance' of employees in Punjab's retail stores, providing actionable strategies for organizations to optimize their workforce capabilities.

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In HR Industry 5.0, the strategic HR value chain model aligns HR practices with organizational goals, emphasizing measurable outcomes, continuous improvement, and a people-centric approach. Leveraging strategic alignment and technological integration, organizations optimize talent acquisition, learning and development, performance management, and total rewards to drive sustainable growth. By prioritizing employee well-being, engagement, and development, organizations foster a positive workplace culture conducive to innovation and success in the digital age. The model offers a roadmap for navigating HR Industry 5.0, enabling organizations to seize opportunities and confront challenges in the dynamic landscape of modern business.

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The insurance companies cannot target every customer for selling insurance products as it is not possible for them to target customers at grand level, but banks can reach every customer even in rural or remote areas as well. Therefore, bancassurance as a mode of distribution is an approved and accepted method by all institutions nowadays along with Industry 5.0 concept which has relatively become new trend. Although various studies are available related to bancassurance, there is less discussion on bancassurance along

with Industry 5.0. Because digital banking is quite a new concept and especially Industry 5.0 adopted by banks nowadays is an emerging concept therefore association of Industry 5.0 with bancassurance and their implications have been addressed in the present study. The present study will help to provide a comprehensive view of the role of Industry 5.0 in bancassurance and will be helpful to the bankers, government, policymakers, and researchers.

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This chapter delves into the connection between sociology and digital HR adoption, focusing on the cultural factors that influence this transition. It highlights how organizational culture, societal norms, and cultural values shape the implementation of digital HR strategies in entrepreneurial ventures. It emphasizes the role of digital HR in sustainable entrepreneurship, its efficiency, employee engagement, and strategic decision-making. It also highlights the importance of sensitivity to varying cultural norms and values in shaping attitudes towards digital HR adoption. It discusses the importance of bridging cultural gaps in digital HR implementation for sustainable growth and innovation. It emphasizes adaptability, openness to change, and cross-cultural communication. Digital HR tools can promote diversity, equity, and inclusion, contributing to sustainable entrepreneurship practices.

## **Chapter 15**

The Fusion of AI, IoT, and Agricultural Sensors for Self-Sustaining Agro-Technological Ecosystems: Industry 5.0 ..... 274

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This chapter explores the integration of artificial intelligence (AI), the internet of things (IoT), and agricultural sensors in creating self-sustaining agro-technological ecosystems. It delves into the historical foundations of agricultural technology, highlights the modern technologies' impact on farming practices, provides a detailed understanding of AI in agriculture, and highlights the role of agricultural sensors. The chapter discusses the integration of AI, IoT, and sensors in agriculture, focusing on the development of self-sustaining ecosystems. It discusses challenges in implementing these technologies and proposes solutions. Real-world case studies provide valuable insights. The chapter also explores the future trajectory of these advancements and their potential to revolutionize agriculture, offering a comprehensive guide for navigating technology-agriculture harmony for sustainable and efficient practices.

## **Chapter 16**

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Industries play a huge role in economic development. However, changes are due to the launch of modern technologies and the increasing complexity of new products, and it manufactures directly to the workers. Advanced technologies like artificial intelligence characterize the launch of Industry 5.0 which are useful in redesigning human resource technologies. The chapter helps to know about the technologies that improve HR processes and decision-making. The study consists of various technologies applied in human resource management to Industry 5.0 and its focus area. Then introduction to the concepts and technologies of this new 5.0 in HRM has evolved from different era. The convergence of this 5.0 is an increasing trend. There are many new and innovative methods to enhance the technologies. The chapter aims to understand the importance of applying technologies to various HR practices and it will be an eye-opener for students, research scholars, consultants, and practitioners based on various secondary sources and company practices.

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