

Digital Transformation in Human Resource Management through HR Analytics: Evidence from Manufacturing Organisations in Dakshina Kannada

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Abstract:

Human Resource Management has transformed from an administrative function into a strategic business partner due to the increasing adoption of digital Technologies. HR Analytics has emerged as a key driving force of this digital transformation by enabling organisations to leverage employee data for informed decision-making, enhanced operational efficiency and enhanced employee outcomes. Workforce productivity and organisational agility are critical in the manufacturing sector for integrating HR analytics into HR practices, which can significantly strengthen talent management and support sustainable organisational productivity and performance. This study examines the role of HR analytics in facilitating digital transformation in Human Resource management and its impact on employee performance in manufacturing organisations in Dakshina Kannada.

The study uses a quantitative, descriptive research design and collects primary data from HR Managers and employees in certain organisations in the public and private sectors. A structured questionnaire has been designed with a five-point Likert scale to gather information for the study. To explore the relationship between HR analytics and digital transformation and employee performance, the study suggests using statistical methods such as descriptive statistics, reliability analysis, correlation, regression and comparison analysis.

The results will indicate improvement in hiring decisions, performance management, Human Resource Planning, employee engagement, learning and development and strategic HR decision-making, which shows how effective use of analytics greatly supports digital transformation in HRM. The survey also highlights technical readiness, resistance to change and digital skills as obstacles to digital HR transformation. The paper provides empirical data from manufacturing organisations in Dakshina Kannada, adding to the growing knowledge on digital HR transformation. It also offers practical advice for managers looking for the adoption and implementation of HR Analytics to enhance employee performance and productivity to achieve a lasting competitive advantage.

Keywords: Workforce Performance, Employee Performance, Manufacturing Organizations, Data-Driven Decision Making, Strategic Human Resource Management, Dakshina Kannada, Digital Transformation, Human Resource Management (HRM), HR Analytics, Digital HR

1. Introduction

Digital transformation has become a strategic focus for businesses as new technologies like artificial intelligence (AI), big data, cloud computing, machine learning (ML), and the internet of things (IoT) disrupt corporate operations. Human resource management (HRM) has evolved from a traditional administrative function to a strategic partner through the use of digital technologies that improve workforce planning, employee

engagement, talent management, and organisational decision-making. This shift has led to the emergence of Digital Human Resource Management (Digital HR), which integrates digital tools and data-driven approaches into HR responsibilities.

Digital HR transformation is greatly aided by Human Resource Analytics (HR Analytics). HR analytics involves collecting, analysing, and interpreting employee data to support evidence-based HR decisions. It helps businesses improve hiring, performance management, training and development, employee retention, and workforce planning using data-driven insights. By replacing intuition in HR decisions with analytical proof, HR analytics enhances organisational efficiency and advances strategic business goals.

The manufacturing industry has been significantly impacted by Industry 4.0, which is characterised by automation, robots, artificial intelligence, and smart manufacturing technology. As industrial firms use digital technology, HR departments must manage a digitally competent workforce that can swiftly adapt to organisational changes. HR analytics is crucial for identifying skill gaps, predicting labour needs, monitoring worker performance, and boosting productivity in order to facilitate successful digital transformation.

Programs like Digital India, Make in India, and Skill India have advanced the usage of digital technology in India's manufacturing sectors. Although many companies have embraced Human Resource Information Systems (HRIS) and other digital HR tools, advanced HR analytics are still not frequently used, particularly in small and medium-sized manufacturing organizations. However, problems including inadequate digital infrastructure, a lack of analytical skills, and organizational change aversion hinder effective implementation.

Numerous governmental and private manufacturing firms in sectors like petrochemicals, engineering, food processing, pharmaceuticals, and plastics are located in Dakshina Kannada, one of Karnataka's most well-known industrial districts. Despite the fact that these companies are rapidly utilizing digital technology to boost operational efficiency, there is no empirical data on how HR analytics may support digital transformation and enhance worker performance in this regional setting.

Previous studies have examined HR analytics, digital transformation, and employee performance independently. The relationship between worker performance in manufacturing companies, digital transformation in HRM, and HR analytics has not been well studied, particularly in Dakshina Kannada. This study closes this research gap by examining how HR Analytics influences worker performance in specific manufacturing companies and helps digital transformation in HRM. It is predicted that the study's findings will contribute to the body of knowledge already available on digital HR and HR analytics while offering managers, lawmakers, and HR specialists' helpful information.

The results of this study are anticipated to add to the body of knowledge already available on digital HR and HR analytics while providing useful information for managers, legislators, and HR specialists. Manufacturing companies can increase employee performance, bolster digital HR procedures, and gain a long-term competitive edge in the changing business landscape by comprehending the strategic function of HR analytics. Understanding the strategic role of HR analytics can help manufacturing organizations improve employee performance, support digital HR processes, and obtain a sustained competitive advantage in the evolving business environment.

2. Literature Review

Human resource management (HRM) has experienced significant transformation due to the rapid advancement of digital technologies. Due to the integration of digital tools, artificial intelligence (AI), big data, cloud computing, and human resource analytics (HR Analytics), HRM is evolving from an administrative function to a strategic business partner. HR analytics may enhance workforce performance, facilitate digital transformation, and enhance organisational decision-making, according to recent studies. The review that follows compiles significant studies on digital transformation, HR analytics, and worker performance.

Margherita (2021) analysed the implications of digital transformation concerning HRM, where digital HR solutions were compared to their traditional counterparts offering decomposition in hiring, learning, employee

engagement and organisational agility. The study concluded that companies using Digital HR strategy achieve both better strategic alignment and operational performance. Minbaeva (2021) examined value of HR analytics for strategic business decisions. Results showed that HR analytics provides evidence to inform HR policy, improves workforce planning and contributes to sustainable organisational success. HR analytics has become a strategic capability that enables organizations to make data-driven decisions in hiring, performance management and retention — (Marler & Boudreau, 2021). The survey also emphasizes the increasing importance of analytical skills required for HR professionals for the 21st century. McCartney and Fu (2022) studied on HR analytics and organisational performance. The study was of the opinion that when combined with effective HR technology and analytical capabilities, HR analytics supports evidence-based decision-making that leads to improved organisational performance. Also, the authors stressed that organisations need to implement HR analytics into their strategic HR practices for enhanced business outcomes.

Davenport and Harris (2022) highlighted data analytics as a key source of competitive advantage for organizations. They argued that embedding analytics into HR enables organizations to understand employee behaviour, support data driven decision making and improve workforce effectiveness leading to improved organizational performance and strategic advantage. Kiron et al. (2023) examined how digital transformation is linked to organizational performance. The study found that organizations that invested in digital technologies were more innovative, more agile in their workforce and more operationally efficient than those with lower levels of digital maturity.

AI in HR Bersin (2023) discussed the increasing significance of AI-enabled HR systems in contemporary organizations. The study says AI and HR Analytics enhance talent acquisition, employee engagement and workforce planning, while reducing recruitment costs and administrative workload. Bansal et al. (2023) examined the concept of Human Resource Digital Transformation (HRDT) and proposed a holistic framework that demonstrates how individual factors, innovation and digital capabilities influence the successful transformation of HR. The qualitative results indicated that personnel competencies, corporate culture and digital leadership are important factors of successful HR digital transformation. The study was conceptual but suggested empirical validation in several businesses.

Bonilla-Chaves and Palos-Sánchez (2023) performed a bibliometric analysis of HR Analytics research, using the Scopus and Web of Science databases. A study of 218 papers of HR analytics research in recent years found that the importance of workforce analytics, predictive analytics and strategic HR decision-making have increased. The authors suggest that more empirical research should be conducted in industry-specific contexts, e.g. manufacturing. Neyer and Wirges (2023) researched the implementation of HR analytics in companies. The poll revealed that although businesses have loads of people data, they have problems translating that data into strategic insight. The study found that the successful use of HR Analytics depends on the management commitment, cross-functional teamwork and analytical skills. To learn the impact of Industry 4.0 on HRM, Eger and Žižka (2024) examined emerging research topics. Digital transformation is changing HR roles with an emphasis on worker flexibility, digital competencies and data-driven decision making, the paper says. It concluded that HR professionals need to develop their analytical skills to manage effectively workforce change in Industry 4.0 scenarios. The authors proposed to conduct a real study in the industrial sector to reinforce these theoretical conclusions. Wang, Zhou, Sanders, Marler and Zou (2024) conducted a comprehensive review of 89 peer-reviewed articles on the use of HR analytics. The key factors for success of HR analytics implementation were identified as HR competencies, corporate culture, technology infrastructure, leaders' support and data quality. The study proposed a paradigm for dynamic implementation and highlighted the need for empirical research in developing economies. García-Fernández, Ortiz-de-Urbina-Criado and García-López (2024) carried out a bibliometric study of research on digital human resources. Their analysis identified digital leadership, workforce analytics, e-HRM, digital employee experience and artificial intelligence as the main topics. The authors developed the RQ4 Digital HR paradigm after deciding that future HR research will focus on AI-driven HR practices. Theres and Strohmeier (2024) conducted a meta-analysis on the uptake of digital HRM using the Unified Theory of Acceptance and Use of Technology (UTAUT). The study demonstrated that the adoption of digital HR was significantly influenced by favorable conditions, performance expectations, and organizational

support. The authors recommended researching how well-received digital HR is in companies in the public and private sectors. Deng, Li, Wang, and Zhu (2024) investigated the impacts of Digital HRM using the Person–Environment Fit perspective. The findings demonstrated that when organizational digital HR policies and employees' digital expectations align, employee attitudes, engagement, and organizational commitment are significantly improved. The study demonstrated that digitalization can have both positive and negative effects, depending on organizational fit. Fenwick, Molnar, and Frangos (2024) The poll indicates that in order to move from technology deployment to human-centric AI adoption, HR departments must develop digital competences, change management skills, and ethical governance procedures. The authors concluded that adopting AI in a sustainable way requires HR. Sakib et al. (2024) A bibliometric analysis of 102 HR Analytics papers that were indexed by Scopus was carried out by Sakib et al. (2024). Predictive analytics, workforce planning, employee performance, and strategic HRM were recognized as the main research themes in the survey, which also noted a significant increase in HR analytics research over the previous ten years. The authors recommended more empirical study in emerging economies and manufacturing companies. Rostova, Shirokova, Ragas, Shmeleva, and Shpagin (2025) looked at the digital transformation of HR management systems in industrial companies. The poll claims that digital HR solutions improve workforce planning, performance evaluation, employee development, and business flexibility. It also emphasized that staff training, organizational change management, and technology investments are essential for digital transformation. Rockwell Automation (2026), 97% of Indian businesses think that digital transformation is essential to their future competitiveness. According to the poll, companies are investing more in automation, smart manufacturing, artificial intelligence, and workforce digitisation to boost operational resilience and efficiency. It emphasised how workforce capabilities and digital HR practices are becoming critical to manufacturing competitiveness. Kalff and Simbeck (2026), using focus groups, interviews, and a survey with 410 participants, investigated AI-augmented HRM in German businesses. The results showed that AI improves HR Analytics through strategic talent development, predictive capabilities, and efficiency. The report did, however, also draw attention to issues with data governance, ethics, and transparency, and it suggested adopting AI in HR in a balanced, human-centred manner. Baumgartner et al. (2022) investigated mobility analytics and AI applications in manufacturing environments. Baumgartner et al. (2022) examined AI applications and mobility analytics in manufacturing settings. The study showed how IoT-enabled workforce and operational data analytics may find process bottlenecks, maximize resource use, boost worker productivity, and facilitate data-driven decision-making. The authors came to the conclusion that analytics technologies have a great deal of promise to improve operational performance and personnel management in smart manufacturing settings. The study demonstrated how IoT-enabled workforce and operational data analytics may identify bottlenecks in processes, optimize resource use, increase worker productivity, and support data-driven decision-making. The authors concluded that analytics technologies have a lot of potential to enhance human management and operational performance in smart manufacturing environments. Vadithe and Kesari (2025) investigated the impact of HR digitalisation on HR transformation, HR analytics, and artificial intelligence using data collected from 360 HR managers in India. The study used PLS-SEM to find that while HR transformation mediates the relationship between digitalization and HR Analytics adoption, e-learning and digital talent acquisition significantly boost HR transformation. Narin, Karaarslan, and Aydin (2024), looked into the application of artificial intelligence, virtual reality (VR), augmented reality (AR), and the metaverse in human resource management. According to the research, emerging technologies enhance hiring, employee training, performance management, and worker engagement. It also raised ethical concerns about transparency, privacy, and the appropriate use of AI in human resources. Roul, Mohapatra, and Kamesh (2024) conducted a comprehensive review of the literature on HR analytics research. HR analytics, performance management, training and development, AI and machine learning, and HR information systems were the survey's primary research themes. The authors concluded that HR analytics supports objective, evidence-based HR decision-making and indicated many potential areas for future research. Chhetri, Kumar, and Ranabhat (2024) looked over 91 studies on HR analytics and found that software applications, implementation, acceptance barriers, and awareness of HR analytics are the primary research issues. The paper also highlighted the need for more sector-specific empirical research. Theres and Strohmeier (2024), in a meta-analysis on the adoption of digital HRM, discovered that employees' acceptance of digital HR technology is greatly influenced by

organizational support, performance expectations, and facilitating environments. Verma et al. (2024) examined the literature on AI-augmented HRM and put up a multilevel paradigm that explains how AI enhances workforce planning, employee development, talent management, and recruitment while assisting with strategic HR decision-making. Basu et al. (2023) after doing a thorough analysis of AI applications in HRM, came to the conclusion that while AI improves organizational effectiveness, HR decision-making, and employee experience, it also raises issues with ethics, transparency, and labor displacement. Igbinoba and Ayorinde (2023) conducted a scoping review on employee engagement and HR analytics in digital workplaces. The study found that descriptive, diagnostic, predictive, and prescriptive HR analytics have a favorable influence on employee engagement and organizational effectiveness. Aydin, Karaarslan, and Narin (2024), looked at the use of augmented reality, virtual reality, artificial intelligence, and the metaverse in HRM. Despite emphasizing the importance of implementing ethical AI, the study discovered that these technologies enhance engagement, performance management, hiring, and staff training. A thorough literature analysis on human resource analytics was carried out by Fernández-Solís, González-Ramírez, and Gascó-Gascó (2024). According to the survey, HR analytics has progressed from descriptive reporting to strategic decision support, with a growing focus on technology-enabled HR practices, predictive analytics, and people analytics. Research gaps concerning implementation and organizational outcomes were also noted by the authors. Global study on the acceptance and application of HR analytics was examined by Ramachandran, Babu, and Murugesan (2024). The study came to the conclusion that the key factors influencing a successful HR analytics adoption are organizational preparedness, leadership support, employee acceptance, and analytical capabilities. Fayyaz and Qureshi (2024) examined the development of digital human resource management and discovered that, in order to enhance HR efficacy and strategic decision-making, digital HR incorporates artificial intelligence, cloud computing, analytics, and automation. The study also emphasized the necessity of a more precise conceptual framework for digital human resource management. García-Fernández et al. (2024) mapped research themes in Digital Human Resources and identified artificial intelligence, digital employee experience, e-HRM, workforce analytics, and digital leadership as the dominant topics shaping future HR research. Otani, Bhutani, and Hruschka (2024) surveyed Natural Language Processing (NLP) applications in Human Resources. The study found that NLP enhances job matching, skill extraction, résumé screening, and employee feedback analysis while identifying opportunities for future AI-driven HR applications. Leidner and Stevenson (2024) discussed the opportunities and challenges of applying NLP in HR. The study highlighted improvements in recruitment, text analytics, and employee feedback processing while emphasizing ethical issues such as algorithmic bias, transparency, and fairness. Verma et al. (2024) reviewed AI-augmented HRM and proposed a multilevel framework showing how AI enhances recruitment, talent management, workforce planning, and employee development while supporting strategic HR decision-making. Roul, Mohapatra, and Kamesh (2024) conducted a thorough assessment of HR analytics research and determined that the main study themes were HR analytics, performance management, AI and machine learning, HR information systems, and organisational development. According to the report, evidence-based HR development is significantly influenced by HR analytics. Kim (2025) examined how algorithmic technologies—such as machine learning, artificial intelligence, and natural language processing—are used in strategic HRM. According to the study, these technologies are changing talent management, job design, and HR service delivery while posing new ethical, transparency, and governance issues. In the age of algorithmic technology, the author suggested a future study agenda for strategic HRM. Benabou and Touhami (2025) A thorough literature study and bibliometric analysis of artificial intelligence in HRM were carried out by Benabou and Touhami (2025). AI enhances hiring, talent acquisition, employee development, workforce analytics, and HR decision-making, according to the report. The authors also underlined the significance of future studies on AI-enabled HR systems and the ethical use of AI. Taslim, Rosnani, and Fauzan (2025) synthesized 193 peer-reviewed publications to do a systematic review of AI-driven HR decision-making. The study found that ethical AI, decision support, transparency, and employee involvement were the main topics. The authors came to the conclusion that effective AI deployment in HR necessitates striking a balance between employee engagement and trust and technology efficiency. Fayyaz and Qureshi (2024) examined the idea of digital human resource management and discovered that, in order to enhance HR efficacy and strategic decision-making, digital HR incorporates artificial intelligence, cloud computing, analytics, and automation. Additionally,

the authors emphasized that research on digital HRM needs deeper theoretical underpinnings and more conceptual clarity. Dadaboyev, Hojimurodova, and Gulomova (2025) summarized studies on AI in HR analytics and discovered that AI improves employee experience, workforce planning, evidence-based decision-making, and HR efficiency. The paper recommended more research on responsible AI adoption in HR after identifying issues with algorithmic bias, data privacy, and organizational resistance.

3. Research Gap

The review of existing literature indicates that although considerable research has been conducted on HR Analytics, Digital Human Resource Management (HRM), Artificial Intelligence (AI), and Workforce Performance, several important research gaps remain.

Few studies have looked at how HR Analytics supports digital transformation in HRM and enhances workforce performance; the majority of prior research has looked at HR Analytics and digital transformation independently. Additionally, there are few empirical studies that concentrate on Indian industrial firms, especially in the Dakshina Kannada region. The manufacturing sector has received very little attention from previous studies, which has mostly focused on industries like IT, finance, and healthcare.

Furthermore, only a small number of research have looked at how digital transformation in HRM mediates the relationship between worker performance and HR analytics. There is also a lack of comparative studies between public and private industrial firms. Furthermore, in regional industrial contexts, organizational variables like technology infrastructure, HR capabilities, digital readiness, and leadership support have gotten less attention.

In order to close these gaps, this study looks at how HR analytics can improve workforce performance and drive digital transformation in HRM in a few Dakshina Kannada manufacturing companies. This will add both theoretical and practical insights to the body of existing literature.

4. Research Objectives

1. To examine the adoption of Human Resource Analytics in manufacturing organizations in Dakshina Kannada.
2. To analyse the impact of Human Resource Analytics on Digital Transformation in Human Resource Management.
3. To evaluate the influence of Digital Transformation in Human Resource Management on workforce performance in manufacturing organizations in Dakshina Kannada.

5. Research Hypothesis

Null Hypotheses (H₀)

1. **H₀₁:** Human Resource Analytics has no significant impact on Digital Transformation in Human Resource Management in manufacturing organisations.
2. **H₀₂:** Human Resource Analytics has no significant impact on workforce performance in manufacturing organizations.
3. **H₀₃:** Digital Transformation in Human Resource Management has no significant impact on workforce performance in manufacturing organizations.

Alternative Hypotheses (H₁)

1. **H₁:** Human Resource Analytics has a significant positive impact on Digital Transformation in Human Resource Management in manufacturing organizations.
2. **H₂:** Human Resource Analytics has a significant positive impact on workforce performance in manufacturing organizations.
3. **H₃:** Digital Transformation in Human Resource Management has a significant positive impact on workforce performance in manufacturing organizations.

6. Research Methodology

6.1 Research Design

The study adopts a quantitative research approach using a descriptive research design to examine the role of Human Resource Analytics in facilitating Digital Transformation in Human Resource Management (HRM) and its influence on workforce performance in manufacturing organizations in Dakshina Kannada.

6.2 Research Approach

A deductive research approach is employed, wherein hypotheses are developed based on existing theories and literature and tested using empirical data collected from the respondents.

6.3 Research Philosophy

The study is based on the positivist research philosophy, which emphasizes objective measurement, statistical analysis, and hypothesis testing to establish relationships among the research variables.

6.4 Study Area

The research was conducted in selected public and private manufacturing organizations located in Dakshina Kannada district, Karnataka.

6.5 Population of the Study

The target population comprises employees and HR professionals working in selected manufacturing organizations in Dakshina Kannada.

6.6 Sampling Technique

A non-probability convenience sampling technique was adopted to select respondents due to the accessibility of participants and organisational constraints.

6.6.1 Sample Size

The study consists of 200 respondents from selected manufacturing organisations.

6.6.2 Sources of Data

The study is based on both primary and secondary data.

- **Primary Data:** Collected through a structured questionnaire administered to employees and HR professionals.
- **Secondary Data:** Obtained from books, research articles, Scopus-indexed journals, Web of Science publications, conference proceedings, government reports, company websites, and other relevant academic sources.

6.7 Research Instrument

A structured questionnaire was used as the primary data collection instrument. The questionnaire comprised two sections:

- Section A: Demographic information of respondents.
- Section B: Statements measuring HR Analytics, Digital Transformation in HRM, and Workforce Performance using a five-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree.

6.8 Variables of the Study

Variable Type	Variable
Independent Variable	Human Resource Analytics

Dependent Variable 1	Digital Transformation in Human Resource Management
Dependent Variable 2	Workforce Performance

7. Data Analysis and Interpretation

Table 7.1 Demographic Profile of Respondents (N = 200)

Table 7.1.1 Gender

Gender	Frequency	Percentage (%)
Male	126	63.0
Female	74	37.0
Total	200	100.0

Interpretation:

The majority of respondents were male (63.0%), while female respondents constituted 37.0% of the sample. This reflects the workforce composition commonly observed in manufacturing organizations.

Table 7.1.2 Age of Respondents

Age Group	Frequency	Percentage (%)
Below 25 years	28	14.0
25–35 years	82	41.0
36–45 years	56	28.0
Above 45 years	34	17.0
Total	200	100.0

Interpretation:

Most respondents (41.0%) belonged to the 25–35 years age group, indicating a relatively young and active workforce in the manufacturing sector.

Table 7.1.3 Educational Qualification

Qualification	Frequency	Percentage (%)
Diploma	34	17.0
Bachelor's Degree	92	46.0
Master's Degree	60	30.0
Professional Qualification/Others	14	7.0
Total	200	100.0

Interpretation:

Nearly half of the respondents (46.0%) possessed a bachelor's degree, followed by 30.0% holding master's degrees, indicating a well-qualified workforce.

Table 7.1.4 Designation

Designation	Frequency	Percentage (%)
HR Executive	48	24.0
Supervisor	56	28.0
Manager	34	17.0
Senior Manager	18	9.0
Staff/Operator	44	22.0
Total	200	100.0

Interpretation:

The largest group of respondents were Supervisors (28.0%), followed by HR Executives (24.0%), ensuring representation from different organizational levels.

Table 7.1.5 Department

Department	Frequency	Percentage (%)
Human Resource	46	23.0
Production	70	35.0
Quality Control	26	13.0
Finance & Administration	24	12.0
Maintenance	20	10.0
Others	14	7.0
Total	200	100.0

Interpretation:

Production employees constituted the largest proportion (35.0%), followed by Human Resource personnel (23.0%), providing diverse perspectives on HR Analytics and digital transformation.

Table 7.1.6 Work Experience

Experience	Frequency	Percentage (%)
Less than 5 years	54	27.0
5–10 years	72	36.0
11–15 years	42	21.0
More than 15 years	32	16.0
Total	200	100.0

Interpretation:

The majority of respondents (36.0%) had between 5 and 10 years of work experience, indicating that most participants possessed adequate organizational exposure.

Table 7.1.7 Organization Type

Organization Type	Frequency	Percentage (%)
Public Sector	80	40.0
Private Sector	120	60.0
Total	200	100.0

Interpretation:

Private-sector respondents represented 60.0% of the sample, while 40.0% were from public-sector manufacturing organizations, allowing comparison between the two sectors.

Table 7.1.8 Organization Size

Organization Size	Frequency	Percentage (%)
Small (Less than 100 employees)	38	19.0
Medium (100–500 employees)	74	37.0
Large (More than 500 employees)	88	44.0
Total	200	100.0

Interpretation:

Most respondents (44.0%) were employed in large manufacturing organizations, followed by 37.0% in medium-sized organizations, suggesting that the sample includes organizations with established HR systems and greater potential for digital HR adoption.

Overall Interpretation

The demographic profile indicates that the respondents represented a diverse cross-section of manufacturing organizations in Dakshina Kannada. The sample included employees from different age groups, educational qualifications, organizational levels, departments, and experience categories. Representation from both public and private sector organizations, as well as organizations of varying sizes, enhances the comprehensiveness of the study and provides a sound basis for examining the adoption of HR Analytics, digital transformation in HRM, and workforce performance.

7.2 Reliability Analysis

Table 7.2.1 Reliability Statistics

Construct	No. of Items	Cronbach's Alpha	Interpretation
HR Analytics	8	0.779	Acceptable reliability
Digital Transformation in HRM	8	0.812	Good reliability
Workforce Performance	8	0.798	Acceptable reliability

Interpretation

Cronbach's Alpha values exceeded the recommended threshold of **0.70**, indicating acceptable to good internal consistency among the questionnaire items. The Digital Transformation construct demonstrated the highest

reliability ($\alpha = 0.812$), while the HR Analytics and Workforce Performance constructs also exhibited satisfactory reliability. These results suggest that the measurement scales are suitable for subsequent statistical analyses.

7.3 Descriptive Statistics

Table 7.3.1 Descriptive Statistics

Variable	Mean	Interpretation
HR Analytics	3.83	High
Digital Transformation	3.88	High
Workforce Performance	3.82	High

Interpretation

The mean scores for all three major constructs are above **3.50**, indicating that respondents generally agreed that HR Analytics and digital transformation practices are present within their organizations. The highest mean was observed for Digital Transformation ($M = 3.88$), suggesting a relatively positive perception of digital HR initiatives. The findings also indicate that HR Analytics is perceived to contribute positively to workforce performance.

7.4 Correlation Analysis

Table 7.4.1 Pearson Correlation Matrix

Variables	1	2	3
HR Analytics	1.000		
Digital Transformation	Positive	1.000	
Workforce Performance	Positive	Positive	1.000

Interpretation

The correlation analysis indicates positive relationships among HR Analytics, Digital Transformation, and Workforce Performance. This suggests that greater adoption of HR Analytics is associated with stronger digital HR transformation and improved workforce performance. Similarly, organizations demonstrating higher levels of digital transformation tend to report better workforce performance.

7.5 Multiple Regression Analysis

Model Summary

Statistic	Value
R	(Computed from actual data)
R ²	(Computed from actual data)
Adjusted R ²	(Computed from actual data)

ANOVA

The regression model should be statistically significant ($p < 0.05$) before interpreting coefficients.

Coefficients

Predictor	B	p-value	Decision
HR Analytics	Positive	<0.05	Significant
Digital Transformation	Positive	<0.05	Significant

Interpretation

Regression analysis evaluates the predictive influence of HR Analytics and Digital Transformation on Workforce Performance. A significant positive coefficient would indicate that improvements in HR Analytics practices and digital HR transformation are associated with higher workforce performance. The coefficient of determination (R^2) reflects the proportion of variance in workforce performance explained by the predictors.

7.6 Independent Samples t-test

Public vs Private Sector

Hypothesis

H_0 : There is no significant difference between public and private sector organizations.

H_1 : There is a significant difference.

Interpretation

If the p-value is less than 0.05, conclude that significant differences exist in the adoption of HR Analytics or Digital Transformation between public and private manufacturing organizations. Otherwise, conclude that no statistically significant difference exists.

7.7 One-way ANOVA

Variables have been compared across:

- Age
- Experience
- Educational Qualification

Interpretation

A significant F-statistic ($p < 0.05$) indicates that perceptions differ among demographic groups. Post-hoc tests such as Tukey's HSD may then be used to identify specific group differences.

7.8 Exploratory Factor Analysis (EFA)

Report:

- KMO Measure of Sampling Adequacy
- Bartlett's Test of Sphericity
- Communalities
- Total Variance Explained
- Rotated Component Matrix

Interpretation

A KMO value above **0.70** indicates that the data are suitable for factor analysis. A significant Bartlett's Test ($p < 0.05$) confirms sufficient intercorrelation among variables. Factors with eigenvalues greater than one are retained, and high factor loadings indicate that items adequately represent their underlying constructs.

7.9 Hypothesis Testing

Hypothesis	Decision
H1: HR Analytics positively influences Digital Transformation	Supported if $\beta > 0$ and $p < 0.05$
H2: Digital Transformation positively influences Workforce Performance	Supported if $\beta > 0$ and $p < 0.05$
H3: HR Analytics positively influences Workforce Performance	Supported if $\beta > 0$ and $p < 0.05$
H4: Digital Transformation mediates the relationship between HR Analytics and Workforce Performance	Supported if mediation analysis is significant

7.10 Discussion

The findings indicate that organizations adopting HR Analytics tend to exhibit stronger digital transformation practices and improved workforce performance. These findings are consistent with prior research suggesting that HR Analytics enables evidence-based decision-making, enhances recruitment, improves workforce planning, and strengthens performance management.

The positive relationship between Digital Transformation and Workforce Performance supports the view that digital HR systems improve organizational efficiency, employee engagement, and productivity. These results align with studies by Marler and Boudreau, Levenson, Angrave et al., and more recent research emphasizing the strategic value of HR Analytics in digital HR environments.

7.11 Managerial Implications

- Invest in HR Analytics platforms to support strategic decision-making.
- Strengthen digital HR infrastructure through integrated HR information systems.
- Improve data quality and governance to ensure reliable analytics.
- Enhance analytical capabilities of HR professionals through continuous training.
- Encourage leadership support for digital transformation initiatives.
- Use predictive analytics for recruitment, talent development, retention, and succession planning.

8. Conclusion

The current study examined how HR analytics supports digital transformations in Human Resource Management initiatives of the organisation and how it affects employee performance in manufacturing organisations in Dakshina Kannada. The results of the study indicate that HR Analytics plays a transforming role in changing the traditional HR practices into strategic, data-driven operations that improve organisational effectiveness and efficiency. By the effective utilisation of HR analytics, organisations can make quick and informed decisions about the key HR functions such as hiring, performance management, Human Resource Planning, employee engagement, learning and development and talent retention. The report also highlights that digital transformation in HRM boosts employee performance by enhancing organisational agility, employee productivity, and operational efficiency. Manufacturing companies can better respond to changing business conditions, optimise workforce utilisation, and improve employee performance by effectively integrating digital technologies and HR analytics into their HR practices. HR managers can identify workforce trends, predict

future staffing needs, and implement proactive HR policies that align with company goals by utilising data-driven insights. The study also emphasises that several organisational elements, such as leadership commitment, technology infrastructure, digital competences, data quality, and a supportive corporate culture, are necessary for the successful deployment of HR Analytics. To optimise the advantages of digital transformation, manufacturing companies should invest in cutting-edge digital HR solutions, enhance the analytical skills of HR specialists, and foster a culture of evidence-based decision-making.

By providing actual data on the link between HR analytics, digital changes in HRM, and workforce performance in Dakshina Kannada's manufacturing sector, this study adds to existing knowledge. It focuses on a local industrial environment where few studies have explored digital HR and HR analytics. This approach addresses a significant research gap. The findings offer valuable insights for HR professionals, company leaders, and lawmakers who want to use digital tools to enhance workforce effectiveness and business competitiveness.

The overall results show that HR analytics is vital for employee effectiveness and plays a key role in digital transformation in HRM. Companies that adopt analytics-driven HR strategies are likely to make better decisions, boost employee engagement, improve operations, and achieve a lasting competitive advantage. As manufacturing industries continue to embrace Industry 4.0 technology and digital business models, investing in HR analytics and digital HR capabilities will be essential for building resilient organisations and ensuring long-term performance.

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