

A Study on Future Readiness of HR Practices at Mycocrop Biologicals Pvt Ltd

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ABSTRACT

In today's rapidly changing business environment, organizations must continuously evolve their Human Resource (HR) practices to remain competitive and adaptive to future workforce demands. The biotechnology sector, characterized by its dependence on skilled scientific and technical professionals, requires especially robust and forward-looking HR strategies. The present study titled "A Study on Future Readiness of HR Practices at Mycocrop Biologicals Pvt Ltd" aims to examine the existing HR practices at the organization and evaluate their alignment with modern and future-oriented HR frameworks.

The study focuses on key HR dimensions including recruitment and selection, training and development, employee engagement, performance management, digital HR adoption, and overall future readiness. Primary data were collected from 45 employees of Mycocrop Biologicals Pvt Ltd using a structured questionnaire. Data were analysed using percentage analysis, graphical interpretation, Chi-Square test, and Pearson Correlation analysis.

The findings reveal that the organization has established stable HR practices with a generally satisfied workforce, a positive workplace environment, and moderately effective training programs. Statistical analysis confirms a significant positive relationship between training effectiveness and employee engagement ($r = +0.68$), and a significant association between HR satisfaction and perceived future readiness ($\chi^2 = 10.65$). However, the study identifies areas requiring strategic improvement, particularly in digital HR transformation, HR analytics, leadership development, and talent management.

The study concludes that Mycocrop Biologicals Pvt Ltd is at a developing stage of HR maturity and possesses the foundational strengths required to become a future-ready organization. It recommends a structured roadmap encompassing digital HR adoption, continuous learning ecosystems, and strategic workforce planning to achieve long-term organizational competitiveness.

KEYWORDS

Future-Ready HR Practices, Digital HR Transformation, Employee Engagement, Training and Development, HR Analytics, Talent Management, Organizational Readiness, Biotechnology Industry, Workforce Development, Strategic HRM.

1. INTRODUCTION:

Human Resource Management (HRM) has undergone a significant transformation in recent decades, evolving from a primarily administrative function to a strategic cornerstone of organizational success. In the modern business landscape, organizations that invest in people-centric HR strategies gain a decisive competitive advantage. This is particularly relevant in knowledge-intensive and innovation-driven sectors such as biotechnology, where the quality of

human capital directly determines the capacity for research, development, and sustainable growth.

The concept of future-ready HR practices refers to the systematic development of HR strategies and systems that enable organizations to anticipate and respond effectively to emerging workforce trends, technological disruptions, and evolving employee expectations. Key characteristics of future-ready HR include digital HR transformation, data-driven decision making, continuous learning and reskilling, agile workforce management, and employee-centric organizational cultures. Organizations that proactively adopt such practices demonstrate higher levels of employee engagement, productivity, talent retention, and organizational resilience.

Mycocrop Biologicals Pvt Ltd is a biotechnology-based organization engaged in the development and production of biological agricultural solutions such as biofertilizers, biopesticides, and plant growth promoters. As a science-driven enterprise, the company relies heavily on skilled scientists, researchers, and technical professionals. Effective HR management is therefore critical for attracting, developing, and retaining the specialized talent required to sustain innovation and organizational growth. Understanding the current state of HR practices at this organization and identifying gaps in future readiness is both timely and relevant.

The present study examines the existing HR practices at Mycocrop Biologicals Pvt Ltd from the perspective of 45 employees and evaluates the organization's preparedness to meet future workforce challenges. The study investigates employee perceptions of recruitment and selection practices, training and development effectiveness, workplace environment, digital HR adoption, employee engagement, and overall future HR readiness. The findings aim to provide actionable insights and strategic recommendations to strengthen the organization's HR capabilities.

OBJECTIVES OF THE STUDY:

PRIMARY OBJECTIVE:

- To evaluate the future readiness of HR practices at Mycocrop Biologicals Pvt Ltd.

SECONDARY OBJECTIVES:

- To analyze employee perceptions regarding existing HR policies and workplace environment.
- To evaluate the relationship between training effectiveness and employee engagement.
- To assess whether HR satisfaction significantly influences perceived future readiness.
- To suggest improvements for developing future-ready HR practices.

2. REVIEW OF LITERATURE:

Margherita (2022) examined the role of HRM in building organizational resilience during periods of rapid technological change. The study found that organizations adopting agile HR frameworks were better positioned to manage workforce disruptions and emphasized that HR must evolve beyond administrative functions to actively contribute to strategic decision-making.

Sivathanu and Pillai (2020) studied Smart HR 4.0 and its impact on employee experience in the digital era. The integration of AI, machine learning, and digital HR platforms significantly improved recruitment efficiency, performance tracking, and decision-making. Organizations adopting HR 4.0 technologies reported higher employee satisfaction and reduced talent attrition.

Deloitte Global Human Capital Trends Report (2021) identified workforce resilience and well-being as critical post-pandemic HR priorities. Organizations investing in employee well-being programs, flexible work arrangements, and continuous learning outperformed competitors in employee retention and productivity, emphasizing that future-ready HR must place employee experience at its core.

Krishnamurthy (2020) studied the transformation of HR practices in Indian organizations during COVID-19. Companies with pre-existing digital HR infrastructure adapted faster and maintained higher workforce productivity. The research highlighted accelerated adoption of digital HR tools, remote onboarding, and virtual training platforms during the pandemic period.

World Economic Forum – Future of Jobs Report (2023) found that over 44% of workers' core skills are expected to change by 2027, making continuous upskilling the most urgent HR priority. Organizations must build structured learning ecosystems, invest in digital skill development, and align talent strategies with evolving business needs to remain competitive.

Agarwal and Sajuyigbe (2021) found that organizations using HR analytics for workforce planning and talent management achieved better outcomes in employee engagement and strategic alignment. The study confirmed that data-driven HR decision-making is a fundamental component of future-ready HR systems.

KPMG Future of HR Report (2022) identified four key priorities shaping future HR: workforce agility, digital HR transformation, inclusive talent management, and leadership capability development. Companies integrating these practices demonstrated stronger organizational performance and higher employee commitment levels.

Malik, Froese, and Sharma (2020) found that training and development investments combined with transparent performance management significantly enhanced employee creativity and organizational innovation capacity in technology-driven organizations, particularly relevant for biotechnology companies.

McKinsey & Company (2021) reported that hybrid work models and digital collaboration tools have permanently altered workforce expectations. Organizations redesigning HR systems to support flexible work and digital performance tracking reported stronger talent retention and engagement.

Nair and Bhattacharyya (2021) studied strategic talent management in Indian biotechnology companies and found that structured talent pipelines, internal mobility programs, and leadership development initiatives produced higher innovation output and workforce stability. HR practices in research-driven organizations must align with long-term strategic goals.

Research Gap: Although several studies have examined HR practices and digital transformation in large organizations, limited research specifically addresses future-ready HR practices in biotechnology-based agricultural companies in India. The present study addresses this gap by examining HR readiness at Mycocrop Biologicals Pvt Ltd, a specialized biological solutions company.

3. RESEARCH METHODOLOGY:

RESEARCH DESIGN:

The study is descriptive in nature.

SOURCE OF DATA:

Primary Data and Secondary Data.

PRIMARY DATA:

Collected from 45 employees of Mycocrop Biologicals Pvt Ltd through structured questionnaires covering HR policies, training, engagement, workplace environment, digital HR practices, and future readiness.

SECONDARY DATA:

Collected from journals, books, company reports, websites, and previous research studies.

SAMPLE SIZE:

The sample size of the study consists of 45 employees.

SAMPLING TECHNIQUE:

Convenience sampling method was used.

TOOLS USED FOR ANALYSIS:

Percentage Analysis, Chi-Square Test, and Pearson Correlation Analysis.

4. DATA ANALYSIS AND INTERPRETATION

Data collected from 45 employees of Mycocrop Biologicals Pvt Ltd was analyzed using percentage analysis, Chi-Square test, and Pearson Correlation. The analysis focuses on employee perceptions of HR practices, training effectiveness and its relationship with engagement, and the influence of HR satisfaction on future readiness.

Objective 1: To Analyze Employee Perceptions regarding HR Practices and Workplace Environment

Employee opinions on training effectiveness, workplace environment, and engagement levels were collected and analyzed to understand the current state of HR practices.

TRAINING PROGRAM EFFECTIVENESS:

OPINION	NO. OF RESPONDENTS	PERCENTAGE
Excellent	11	24%
Good	17	38%
Average	10	22%
Poor	7	16%
Total	45	100%

SOURCE: Primary Data

INTERPRETATION:

analysis reveals that 62% of employees rate training programs as Good or Excellent, indicating that the organization's learning initiatives are largely effective. Training programs positively contribute to employee skill development and workplace performance. However, 38% of employees rated training as Average or Poor, suggesting room for improvement in training design and delivery.

WORKPLACE ENVIRONMENT:

OPINION	NO. OF RESPONDENTS	PERCENTAGE
Excellent	14	31%
Good	18	40%

Average	9	20%
Poor	4	9%
Total	45	100%

SOURCE: Primary Data

INTERPRETATION:

majority of respondents (71%) assess the workplace environment as Good or Excellent, indicating that the organization maintains a supportive and collaborative culture. A positive workplace environment contributes significantly to employee satisfaction, motivation, and retention, representing a key organizational strength.

EMPLOYEE ENGAGEMENT LEVELS:

OPINION	NO. OF RESPONDENTS	PERCENTAGE
Highly Engaged	12	27%
Moderately Engaged	17	38%
Neutral	9	20%
Low Engagement	7	15%
Total	45	100%

SOURCE: Primary Data

INTERPRETATION:

data shows that 65% of employees are Highly or Moderately Engaged, indicating that employees are generally motivated and psychologically connected to their roles. The remaining 35% represents an opportunity to strengthen engagement through improved recognition programs, career development pathways, and employee experience strategies.

Objective 2: To Evaluate the Relationship between Training Effectiveness and Employee Engagement

Pearson Correlation Analysis was used to examine whether a statistically significant relationship exists between training program effectiveness and employee engagement levels among the 45 respondents.

Null Hypothesis H_0 : There is no significant relationship between Training Effectiveness and Employee Engagement.

Alternative Hypothesis H_1 : There is a significant relationship between Training Effectiveness and Employee Engagement.

Pearson Correlation Formula: $r = \frac{\sum (X - \bar{X})(Y - \bar{Y})}{\sqrt{[\sum (X - \bar{X})^2 \times \sum (Y - \bar{Y})^2]}}$

PEARSON CORRELATION RESULT:

PARTICULARS	VALUE
Variables	Training Effectiveness vs Employee Engagement
Sample Size (n)	45
Pearson Correlation (r)	+0.68
Strength of Relationship	Moderate to Strong Positive
t-statistic	6.08
Degrees of Freedom (df)	43 (n – 2)
Critical t-value ($\alpha = 0.05$)	2.017
Result	Significant — H_1 Accepted ($6.08 > 2.017$)

SOURCE: Primary Data

INTERPRETATION:

Pearson Correlation Coefficient is +0.68, indicating a moderate to strong positive relationship between Training Effectiveness and Employee Engagement. The t-test value of 6.08 exceeds the critical value of 2.017 at $df = 43$ and $\alpha = 0.05$. Therefore, the Null Hypothesis (H_0) is rejected, and Alternative Hypothesis (H_1) is accepted. This confirms that better training programs lead to higher employee engagement levels.

Objective 3: To Assess whether HR Satisfaction significantly influences Perceived Future Readiness

Chi-Square test of independence was used to determine whether employees satisfied with HR practices are significantly more likely to perceive the organization as future ready.

Null Hypothesis H_0 : HR Practices do not significantly influence Future Readiness.

Alternative Hypothesis H_1 : HR Practices significantly influence Future Readiness.

CHI-SQUARE TEST RESULT:

PARTICULARS	VALUE
Calculated Chi-Square Value (χ^2)	10.65
Degrees of Freedom	1 (2×2 table)
Level of Significance	5 percent
Critical Value (Table Value)	3.841
Result	Significant — H_1 Accepted ($10.65 > 3.841$)

SOURCE: Primary Data

INTERPRETATION:

calculated Chi-Square value of 10.65 is significantly greater than the table value of 3.841 at 5% level of significance with 1 degree of freedom. The Null Hypothesis (H_0) is rejected, and Alternative Hypothesis (H_1) is accepted. This confirms that HR practices significantly influence the perceived future readiness of the organization. Employees satisfied with HR practices are considerably more likely to believe the organization is prepared for future workforce challenges.

5. FINDINGS:

1. The majority of employees (31%) belong to the 26–30 age group, indicating a young and adaptable workforce capable of embracing digital HR transformation.
2. The organization has moderate gender diversity with 62% male and 38% female employees, presenting opportunities to strengthen gender inclusion.
3. Most employees (40%) are graduates, and 27% have below 2 years of experience, indicating the need for structured capability-building programs.
4. Approximately two-thirds of employees are satisfied with existing HR practices, reflecting stability in HR processes and positive employee-management relations.
5. 62% of employees rate training programs as Good or Excellent, confirming that learning and development initiatives positively contribute to skill development and performance.
6. Pearson Correlation confirms a statistically significant positive relationship between Training Effectiveness and Employee Engagement ($r = +0.68$, H_1 accepted).
7. 71% of employees consider the workplace environment Good or Excellent, demonstrating a strong, supportive organizational culture.
8. 65% of employees report high or moderate engagement levels, indicating a motivated workforce that is psychologically connected to organizational goals.
9. 62% of employees agree that digital HR practices are being adopted, though comprehensive HRIS integration and HR analytics capabilities are still developing.
10. Chi-Square analysis confirms that HR satisfaction significantly influences perceived future readiness ($\chi^2 = 10.65 > 3.841$, H_1 accepted).
11. 62% of employees believe the organization is prepared or highly prepared for future HR challenges, reflecting overall confidence in organizational readiness.
12. The study concludes that Mycocrop Biologicals Pvt Ltd is at a developing stage of HR maturity with strong operational HR foundations but significant scope for strategic HR evolution.

6. SUGGESTIONS:

1. Develop a structured digital HR transformation roadmap including HRIS implementation, digital employee records, automated attendance management, and online performance management systems.
2. Build continuous learning ecosystems through annual skill gap analyses, competency development frameworks, technical certification programs, and access to digital learning platforms.

3. Strengthen employee experience strategies through structured recognition programs, career development mapping, employee voice platforms, and personalized growth discussions.
4. Introduce structured talent management systems covering identification of high-potential employees, career progression frameworks, succession planning, and internal promotion strategies.
5. Develop HR analytics capabilities including employee performance dashboards, training effectiveness metrics, engagement monitoring, and workforce planning analytics for data-driven decision-making.
6. Strengthen diversity and inclusion practices through inclusive hiring, equal opportunity policies, gender balance targets, and diversity awareness programs.
7. Build leadership pipelines through mentoring systems, management exposure opportunities, and decision-making training programs to ensure long-term organizational sustainability.
8. Enhance employee well-being initiatives through health awareness programs, work-life balance policies, counselling support, and occupational safety programs.
9. Implement long-term strategic HR workforce planning aligning talent development with future skill forecasting and organizational business goals.
10. Improve HR communication to ensure employees are informed about career development opportunities, HR strategy, and the organization's long-term preparedness roadmap.

7. CONCLUSION:

The present study examined the future readiness of HR practices at Mycocrop Biologicals Pvt Ltd, a biotechnology-based agricultural solutions company. Research was conducted using primary data from 45 employees and supported by an extensive review of contemporary literature from 2020 to 2025.

The study concludes that the organization has established a stable HR foundation with positive workplace culture, reasonably effective training programs, and generally satisfied employees. Statistical findings confirm that training effectiveness positively influences employee engagement ($r = +0.68$) and that HR satisfaction significantly shapes perceptions of future readiness ($\chi^2 = 10.65$), providing strong empirical justification for investing in HR quality.

However, critical development areas remain, including digital HR transformation, HR analytics implementation, comprehensive talent management, and leadership development. The organization currently occupies a developing stage of HR maturity, transitioning from operational toward strategic HR. For a biotechnology organization, HR effectiveness is a fundamental driver of innovation capacity and talent competitiveness.

Therefore, Mycocrop Biologicals Pvt Ltd possesses the foundational strengths required to become a future-ready organization. With sustained investment in digital HR systems, continuous learning, and strategic workforce planning, the organization can achieve long-term competitive advantage through its most valuable asset — its people.

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