

A Study on Data-Driven Hr Practices at Orient Cement Limited

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Abstract—Human Resource Management is increasingly moving from experience-based decisions to evidence-based decisions supported by workforce data, digital HR systems and analytics. The present study examines data-driven HR practices at Orient Cement Limited, with particular attention to employee awareness, the use of HR data in recruitment and performance management, the perceived contribution of analytics to organisational efficiency, and the challenges associated with implementation. The study adopts a descriptive research design and uses both primary and secondary data. Primary data were collected through a structured questionnaire from 50 employees selected through convenience sampling, while secondary information was obtained from books, peer-reviewed research articles and official company sources. The responses were analysed using the percentage method.

The findings show that the organisation has a broadly positive foundation for data-driven HR. Although only 22% of respondents reported being highly aware of data-driven HR practices, 82% viewed HR data as useful for improving employee performance, 90% believed data was properly used in recruitment and selection, and 86% considered performance appraisal to be supported by proper data and records. Further, 86% believed that data-driven HR practices improve overall organisational efficiency. At the same time, 60% identified the lack of skilled employees as the most important challenge in implementing HR analytics, followed by limitations in technology (26%). The broader survey also indicated strong perceptions regarding digital HR adoption, employee-data privacy and the use of employee feedback. The study concludes that Orient Cement Limited can strengthen the value of HR analytics through greater employee awareness, analytics capability building, integrated HR technology, accurate data management and continued attention to privacy and transparency.

Index Terms—Data-Driven HR, HR Analytics, People Analytics, Digital HR, HRIS, Employee Performance, Organisational Efficiency.

I. INTRODUCTION

Human resources are a critical organisational resource because the quality of workforce decisions directly affects productivity, continuity, employee development and long-term competitiveness. In the traditional HR model, many decisions relating to recruitment, attendance, performance appraisal, training, promotion and retention depended heavily on administrative records, managerial experience and personal judgement. The growing availability of digital employee information has changed this approach by enabling HR professionals to use measurable evidence in addition to experience.

Data-driven HR practices refer to the systematic collection, organisation, analysis and use of workforce information for human resource decision-making. The data may come from recruitment records, attendance systems, performance appraisals, training records, payroll systems, employee surveys, grievance records and other HR information systems. When such information is interpreted effectively, it can help an organisation identify patterns, evaluate HR programmes, understand workforce needs and support more objective decisions. HR analytics therefore extends beyond routine reporting; its value lies in converting employee data into insights that can guide action.

The relevance of data-driven HR is especially important in manufacturing organisations, where workforce availability, technical competence, safety, shift planning, training and performance have direct

operational consequences. Cement manufacturing requires coordination among production employees, engineers, maintenance personnel, quality teams, administrative staff and managers. In this setting, timely HR information can support manpower planning, skill development, attendance management, performance monitoring and employee retention while reducing dependence on fragmented manual processes.

Orient Cement Limited operates in a technology-intensive manufacturing environment and therefore provides a useful context for examining how employees perceive the use of HR data and digital systems. The present study focuses on the extent to which data supports HR decisions, the perceived effectiveness of analytics in key HR functions, and the barriers that may prevent organisations from obtaining full value from workforce data. By examining employee responses, the study seeks to provide a practical view of the present status of data-driven HR practices and the areas in which further capability development may be required.

II. REVIEW OF LITERATURE

HR analytics and people analytics have developed as an important area of contemporary Human Resource Management because organisations increasingly seek evidence that connects workforce decisions with organisational outcomes. Prior studies highlight both the strategic potential of analytics and the organisational capabilities required for its effective use.

Marler and Boudreau (2017) conducted an evidence-based review of HR analytics and observed that the field had attracted considerable managerial interest but still required stronger evidence, analytical rigour and closer integration with HR decision-making. Their review emphasised that analytics creates value when it is connected to meaningful organisational questions rather than treated only as a reporting activity.

Minbaeva (2018) conceptualised human capital analytics as an organisational capability and argued that credible analytics depends on three connected elements: data quality, analytical capability and the strategic ability to act on the findings. The study is particularly relevant because it shows that technology alone is insufficient when organisations lack reliable

data or people who can translate analysis into decisions.

Tursunbayeva, Di Lauro and Pagliari (2018) reviewed the conceptual boundaries and value propositions of people analytics. They found that the field is multidisciplinary and increasingly supported by digital and data-science capabilities. The review also identified gaps in employee-related ethical considerations and analytical training, indicating that successful adoption requires both technical competence and responsible governance.

McCartney and Fu (2022) examined data from 155 organisations and found support for a chain in which HR technology enables HR analytics, analytics facilitates evidence-based management, and evidence-based management contributes to organisational performance. Their findings strengthen the argument that analytics has practical value when technological access is accompanied by managerial use of evidence. Tursunbayeva et al. (2022) examined the ethics of people analytics and highlighted issues involving privacy, transparency, fairness, proportional use of employee information and stakeholder participation. The study demonstrates that the credibility of data-driven HR depends not only on analytical effectiveness but also on employees' confidence that their information is handled responsibly.

III. RESEARCH GAP

Existing research establishes the strategic potential of HR analytics and explains the importance of technology, data quality, analytical capability and ethical governance. However, much of the literature examines analytics at a general organisational level or across multiple firms. There is comparatively limited company-specific evidence from the cement-manufacturing context on how employees perceive data-driven HR across recruitment, performance appraisal, workforce efficiency and implementation challenges. The present study addresses this gap by examining employee responses at Orient Cement Limited and by combining operational HR uses with employee awareness, perceived effectiveness and barriers to analytics adoption within a single study.

IV. OBJECTIVES OF THE STUDY

- To study the existing data-driven HR practices followed at Orient Cement Limited.
- To analyse the role of HR analytics in recruitment, performance appraisal and employee retention.
- To evaluate the effectiveness of data-based decision-making in Human Resource Management.
- To identify the benefits and challenges associated with implementing data-driven HR practices.
- To suggest measures for improving HR analytics and decision-making processes at Orient Cement Limited.

V. RESEARCH METHODOLOGY

The present study follows a descriptive research design to examine employees' perceptions of data-driven HR practices at Orient Cement Limited. A descriptive approach is appropriate because the study seeks to record, organise and interpret opinions regarding the existing use of workforce data and digital HR systems rather than manipulate the organisational environment.

The study is based on both primary and secondary data. Primary data were collected through a structured questionnaire from 50 employees. Convenience sampling was used to select respondents who were

available and willing to participate in the survey. Secondary data were drawn from books, peer-reviewed journal articles, official company information and other relevant sources on HR analytics, digital HR and evidence-based Human Resource Management.

The collected responses were analysed using the Percentage Method and presented through tables and charts. The analysis focuses on selected indicators that directly reflect the study objectives: employee awareness of data-driven HR, perceived usefulness of HR data for performance, the use of data in recruitment, data-based performance appraisal, organisational efficiency and the major challenge in implementing HR analytics.

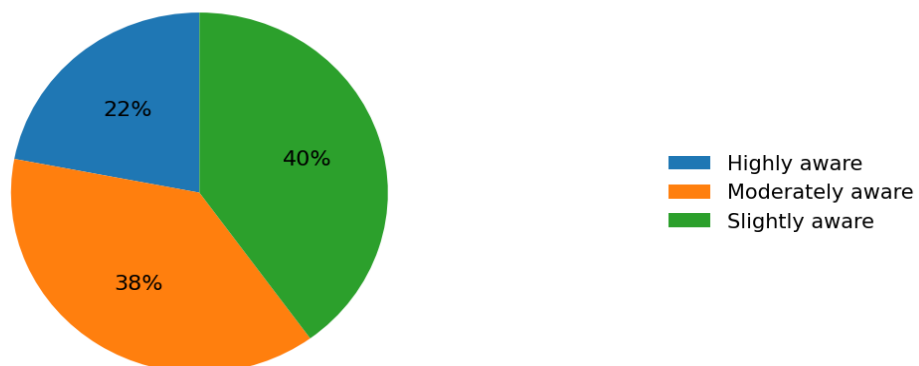
SURVEY RESULTS

1. Table Showing Awareness of Data-Driven HR Practices

Option	No. of Respondents	% of Respondents
Highly aware	11	22%
Moderately aware	19	38%
Slightly aware	20	40%
Total	50	100%

Chart 1: Awareness of Data-Driven HR Practices

How aware are you of data-driven HR practices?
50 responses



Analysis

The table shows that 20 respondents (40%) were Slightly aware of data-driven HR practices, 19

respondents (38%) were Moderately aware, and 11 respondents (22%) were Highly aware.

Interpretation

Awareness is present across the workforce, but it is not yet deep. A combined 78% of respondents fall in the slightly or moderately aware categories, indicating that the organisation can gain more value from HR analytics by improving employee understanding of how data is collected, interpreted and used in HR decisions.

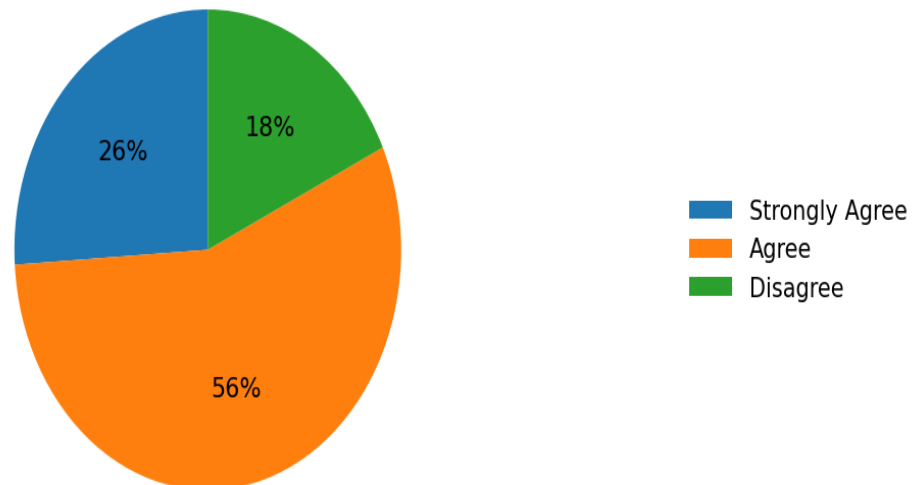
2. Table Showing Usefulness of HR Data in Improving Employee Performance

Option	No. of Respondents	% of Respondents
Strongly Agree	13	26%
Agree	28	56%
Disagree	9	18%
Total	50	100%

Chart 2: Usefulness of HR Data in Improving Employee Performance

Is HR data useful for improving employee performance?

50 responses



Analysis

The table indicates that 28 respondents (56%) Agreed and 13 respondents (26%) Strongly Agreed that HR data is useful for improving employee performance, while 9 respondents (18%) Disagreed.

Interpretation

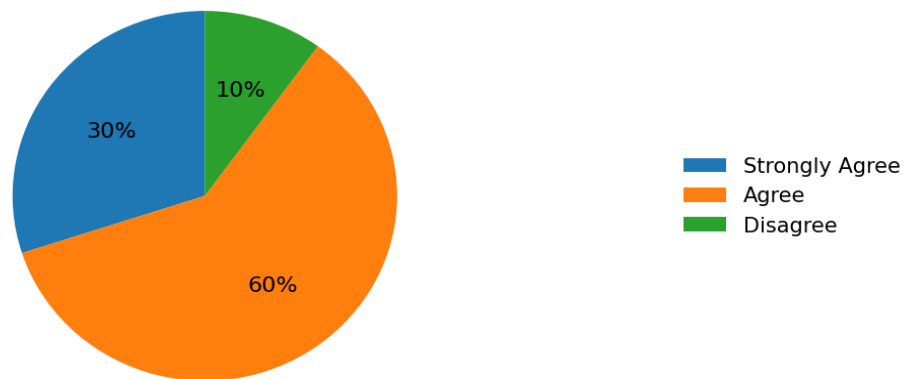
The combined positive response of 82% shows strong employee confidence in the usefulness of HR data for performance improvement. This suggests that employees generally recognise the value of evidence-based monitoring and feedback, although the 18% disagreement indicates that the practical benefits of analytics may not be equally visible to all employees.

3. Table Showing Proper Use of Data During Recruitment and Selection

Option	No. of Respondents	% of Respondents
Strongly Agree	15	30%
Agree	30	60%
Disagree	5	10%
Total	50	100%

Chart 3: Proper Use of Data During Recruitment and Selection

Is data properly used during recruitment and selection?
50 responses



Analysis

The table reveals that 30 respondents (60%) Agreed and 15 respondents (30%) Strongly Agreed that data is properly used during recruitment and selection, while 5 respondents (10%) Disagreed.

Interpretation

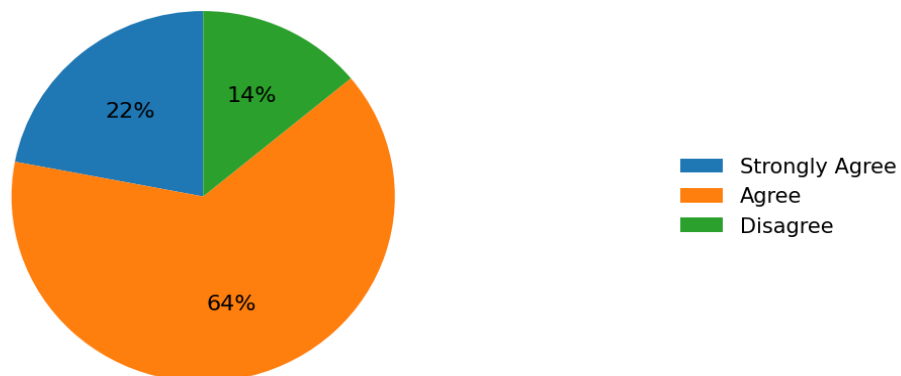
A favourable response from 90% of employees indicates that recruitment and selection are widely perceived as being supported by relevant information and records. The result reflects a strong base for objective hiring decisions and suggests that data-driven recruitment is one of the more visible applications of HR analytics within the organisation.

4. Table Showing Opinion on Data-Based Employee Performance Appraisal

Option	No. of Respondents	% of Respondents
Strongly Agree	11	22%
Agree	32	64%
Disagree	7	14%
Total	50	100%

Chart 4: Data-Based Employee Performance Appraisal

Is employee performance appraisal based on proper data and records?
50 responses



Analysis

The table shows that 32 respondents (64%) Agreed and 11 respondents (22%) Strongly Agreed that

performance appraisal is based on proper data and records. Seven respondents (14%) Disagreed.

Interpretation

The 86% positive response indicates that most employees view performance appraisal as evidence-based rather than purely subjective. This is important for transparency because the credibility of appraisal influences decisions relating to recognition, development, promotion and training. The remaining disagreement suggests a need for clear communication about appraisal criteria and the data used in evaluation.

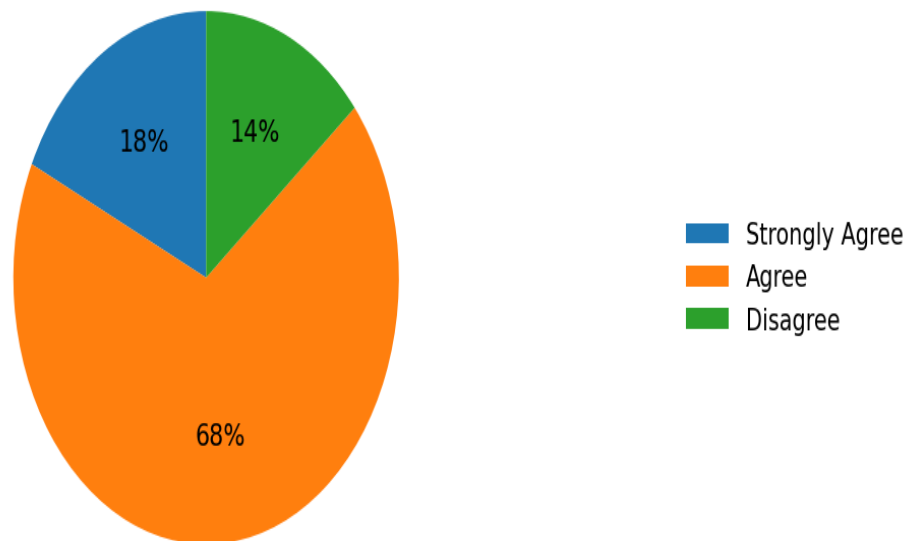
5. Table Showing Improvement of Organisational Efficiency Through Data-Driven HR Practices

Option	No. of Respondents	% of Respondents
Strongly Agree	9	18%
Agree	34	68%
Disagree	7	14%
Total	50	100%

Chart 5: Improvement of Organisational Efficiency Through Data-Driven HR Practices

Do data-driven HR practices improve overall organisational efficiency?

50 responses



Analysis

The table indicates that 34 respondents (68%) Agreed and 9 respondents (18%) Strongly Agreed that data-driven HR practices improve overall organisational efficiency, whereas 7 respondents (14%) Disagreed.

Interpretation

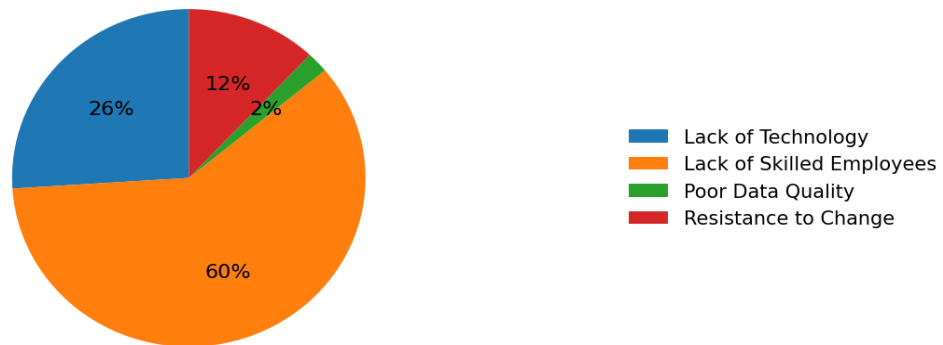
A combined 86% positive response suggests that employees associate data-driven HR with better organisational functioning. The finding supports the view that digital records and analytics can improve the speed, consistency and quality of HR decisions. However, the benefit is likely to depend on the quality of data, employee capability and the extent to which analytical insights are converted into practical action.

6. Table Showing Biggest Challenge in Implementing HR Analytics at Orient Cement Limited

Option	No. of Respondents	% of Respondents
Lack of Technology	13	26%
Lack of Skilled Employees	30	60%
Poor Data Quality	1	2%
Resistance to Change	6	12%
Total	50	100%

Chart 6: Biggest Challenge in Implementing HR Analytics

What is the biggest challenge in implementing HR analytics?
50 responses



Analysis

The table shows that 30 respondents (60%) identified Lack of Skilled Employees as the biggest challenge in implementing HR analytics. Thirteen respondents (26%) identified Lack of Technology, 6 respondents (12%) selected Resistance to Change, and 1 respondent (2%) identified Poor Data Quality.

Interpretation

The dominant concern is not data availability but analytical capability. The 60% response for skill shortage indicates that greater investment in HR analytics training, data interpretation and digital competence may produce stronger returns than technology adoption alone. At the same time, the technology and change-management responses show that capability building should be supported by appropriate systems and employee involvement.

VI. CONCLUSION

The study shows that data-driven HR practices have a meaningful presence at Orient Cement Limited and are generally viewed positively by employees. The strongest perceptions relate to the practical use of data in recruitment and selection, performance appraisal and the improvement of organisational efficiency. Eighty-two percent of respondents considered HR data useful for improving employee performance, 90% reported a favourable view of data use in recruitment, 86% viewed performance appraisal as data-based, and 86% believed that data-driven HR contributes to organisational efficiency. The broader survey findings also indicated favourable perceptions regarding training-need identification, employee retention,

digital HR systems, employee feedback and the protection of employee-data privacy.

At the same time, the study identifies an important capability gap. Only 22% of respondents were highly aware of data-driven HR practices, while 60% identified a shortage of skilled employees as the biggest challenge in implementing HR analytics. These findings indicate that the next stage of development should focus on strengthening analytical skills, employee awareness and the practical interpretation of HR data. Orient Cement Limited can further improve its data-driven HR system by providing regular analytics training, integrating HR information systems, maintaining accurate and updated employee records, communicating decision criteria transparently and continuing strong privacy safeguards. A balanced approach that combines technology, data quality, employee capability and ethical governance can help the organisation derive greater strategic value from HR analytics.

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