



# “From Data To Practice: A Study On Contextual Hurdles In Hr Analytics Adoption”

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## ABSTRACT

“From data to practice: A study on contextual hurdles in HR analytics adoption”, it is an empirical study, in today’s digital and mass media communication era, Human Resource Analytics in organization it develop as an essential tool for evidence-based decision-making in HR practices such as, Recruitment, Performance appraisal management, and retention, compensation etc. but yet it is facing a significant challenge in adoption of these analytics, mainly in developing the HR analytics and economies such as India. This is grounded in an open system theory, TOE framework, Change management perspectives, and Resource based view. This study particularly focus on examining the organizational technological, and environmental challenges to implement the Human Resources Analytics. This research address the essential key objectives such as, assessing impacts of change in management, identifying the data quality, and mainly leadership roles, by analysing all of these objectives and the adoption of HR analytics. This is a Quantitative information collected through survey and collected the responses of 72 HR employees from different industries or organization, by using a structured questionnaire in google form and used various scales like Likert, Multiple choice, Ranking and rating scales, and the data analysed by using frequency distribution, tables and graphs of percentage (pie charts).

From findings which shows that there is (79.2%) high adoption of Human Resource Analytic tools, and effectively utilizing the insights in decision making (87.5%, on the other hand the challenges like 47.2% is sufficient and moderately using analytical skills, there is budget constraints around 45.8%, the quality of data to using analytical tools is an issue it is around (66.7%) in frequent, change resistance is 38.9% and leadership inconsistency in organization is 45.8%. there is a dominance of IT sector which underscores the tech-driven progress, there is a strong cross departmental collaboration and coordination is around 41.7%. This data focusses on the study which bridges the gap between the Human Resource Analytics adoption and practice, this study also highlights the need for enhancing the

skills and the commitment of the leadership in organization to overcome the hurdles in HR Analytics adoption in industries.

**Key Words:** (HRA) Human Resource Analytics, Hurdles in adoption of HRA, Open system Theory, Data quality, Organizational readiness, HR practitioners, TOE framework, Resistance to change management.

## INTRODUCTION

### 1.1 Background of the study

In today's digital driven business environment, to remain competitive and efficient every organization is increasingly expected to make data driven decisions. Organizations to transform Human Resource data into actionable insights for decision making related to recruitment they are using a strategic tool i.e. Human Resource Analytics it also help to analyse performance management, workforce planning, and employee retention. By using statistical analysis, predictive modelling, and data visualization, HR analytics support only evidence base HR management rather than intuition base practices.

The adoption of Human Resource Analytics remains uneven, mainly in developing economies despite it has strategic value. Many organizations have large volume of employee data but they struggle to translate that data into meaningful Human Resource practices. The gap between data availability and data utilization which highlights the presence of related challenges that delay in effective Human Resource Analytics adoption.

### 1.2 Theoretical Background of the study

#### 1.2.1 Open Systems

Organization does not exist in a void this is the belief based on the Open Systems Theory, but it has influenced and interact with its surroundings. People, technology, and data are the input for organization, they are processed through internal mechanisms, and also refined to produce end results like productivity gains, improved performance of organization, at last competitive advantage over others.

#### Human Resource Analytics Flow :

**Inputs:** Human Resource Data, Employee Skills, Leadership, IT infrastructure.

**Transformation:** Tools utilized for analytics, HR capabilities, and decision-making process.

**Outputs:** Efficient workforce, Smart decisions for Human Resources activities, and improved organizational performance. There are few interruptions in the system, in terms of quality, change attitude, and analytics, these can pose related challenges to the whole process.

#### 1.2.2 Technology, Organization, Environment Framework (TOE)

This framework brings clarity of technology, organization, environment to outlook the hindrances to adopting HR analytics

- Technological Context: Analytical tools, System Integration, Data Quality.
- Organizational Context: HR capabilities, Culture, Leadership, Analytics maturity,
- Environmental Context: Market competition, Industry norms and regulations, and regulatory pressure.

TOE approach suite with Open System Theory, as this approach accounts for both internal and external dynamic, pressures which adoption choices are just a subject to the organization.

### 1.2.3 Resource-based view (RBV)

In the Context of Human Resource Analytics adoption, leading strategic assets which are assumed to consist of analytical competencies, data governance competencies mainly HR competencies. RBV suggest that the sources of sustained competitive advantage these are more valuable, and difficult to imitate the resources. Few economies are suffering more from shortages of these resources mainly less developed economies are tend to suffer, thus facing important contextual challenges that effective adoption.

### 1.3 Problem Statement

Human Resources Analytics recognized as one of the digital-driven in business economies of evidence-based decision making by HR managers, Human Resource Analytics in organizations they are facing issues to implement mainly concerning about developing countries. There are number of issues facing by organization when it comes to adoption of an HR analytics program including poor quality data which is typically not reliable, inadequate IT systems, insufficient ability in analytics and senior management, resistance to change, lack of alignment between the strategy and the Human Resource Analytics projects that undertaken by organizations.

### Review of Literature

The current study, ” **Organization Adoption Factors of HR analytics: A Practitioner’s Perspective** ” by **Shanti Ratnam Dasari and V. Rama Devi(2025)**, aims to present the organizational adoption factors of HR analytics using a practitioner’s point of view. As identified in the literature review, the body of literature emphasizes HR analytics as a strategy to assist decision making processes within the HR domain through various enablers such as top management commitment, data quality, technological infrastructure, and analytical skill bases, as well as barriers such as skill bases, organizational resistance to change, and the absence of integrated systems. While the literature on innovation adoptions serves as the basis of the findings in the literature review, the contribution of such research is to provide a holistic view of HR analytics adoption through the point of view of practitioners.

The paper “**Exploring the Antecedents, Analytical Tools, and Challenges in Implementation of Adoption of HR Analytics: A Study in the Indian Context**” by **Mansi Saxena, Teena Bagga, and Rudra Rameshwar (2025)** investigates drivers, tools, and implementation challenges that determine HR analytics adoption in the Indian IT sector. Past literature has identified factors such as organizational readiness, data quality, leadership support, and analytical capabilities that drives the adoption, while barriers such as skill shortage and resistance to change have been mentioned. The study adds to the literature by contextualizing the adoption of HR analytics within an industry- specific and cultural setting, using empirical evidence from Indian IT professionals and underlining the usage of tools like R and Power BI.

The research piece “**The Adoption of HR Analytics in Decision-Making: Challenges and Opportunities**” by **Srivastava(2025)** identifies HR analytics as an important facilitator in the effective implementation of data-driven decision-making in the field of HRM. According to prevailing literature, HR analytics results in effective talent management, improvement of performance and engagement, and reduction in costs through the alignment of HR practices with business strategy. However, there exist significant obstacles in the adoption and implementation of HR analytics. What this research paper

does differently is synthesize these positive and challenges points regarding the role and limitations of HR analytics in HR decision making.

The paper by **Shafiq Alam Et al.(2025)** ‘**Exploring approaches to overcome challenges in adopting human resources analytics through stakeholders’ engagement, Management Review Quarterly**’ provides an overview of how organization can successfully overcome the various barriers to the adoption of HR analytics through effective stakeholders’ engagement. Prior literature identifies Hr analytics as a key enabler of evidence-based HR decision-making but also points out various issues, such as problems with data governance, shortage of skills, resistance to change, and inadequate infrastructure. Synthesizing evidence from over 110 studies, the article identifies these obstacles and emphasizes strategies such as fostering a data- driven culture, strengthening analytics capabilities, and promoting cross- functional collaboration, underscoring the critical role of stakeholder’s involvement in successful HR analytics implementation.

The research by **Weam Tunsi et al.(2023)**, ‘**Factors Influencing Adoption of HR analytics by Individuals and Organizations,**’ in which the researchers investigated individual and organizational factors that influence the adoption of HR analytics by HR professionals in large organizations using the UTAUT model, reveals that personal factors such as self- efficacy, performance and effort expectancy, resources and data availability, quantitative skills, and social influence significantly influence the adoption of HR analytics by individuals and organization, but fear appeal has no influence. The research contributes to the emerging HR analytics literature by adding that the joint role of personal psychological readiness and organizational conditions influences the effective adoption of HR analytics.

The study “**Benefits and challenges of adopting Human Resource Analytics: A comprehensive Review**” Authors are **Ramsha Khaliq and B. Saritha (2023)**, has reviewed the benefits and hurdles of HR analytics adoption within the border literature of Human Resource Management on evidence-based. The benefits such as improved retention, recruitment, productivity, performance measurement and strategic alignment, and challenges/hurdles like data quality issues, skill gap, resistance to change, and technology integration barriers. This review give insights about successful Human Resource Analytics adoption which depends on addressing various level of factors, such as individual readiness, organizational support, data governance, and stakeholder collaboration.

The study “**Contextual challenges in HR analytics adoption: An open systems perspective from HR managers in developing country**” Authors are **Bhanni K, Fujimoto Y, trees Bolt EE (2024)**, has examined Human Resource Analytics adoption in a developing country mainly perspective of open systems. Analysed more on technical and skill-based challenges, this paper highlights more about contextual challenges in HR analytics adoption including weak data governance, limited analytical capabilities, resource constraints, cultural resistance of change, and mainly lack of managerial support which directly shape adoption of HR analytics challenges. The study provided insights such as HR analytics adoption is not merely a technological issue but also a systematic process influenced by border environmental and organizational conditions

The study **“HRA adoption via organizational analytics maturity: examining the role of institutional theory, resource-based view and diffusion of innovation” 2024**, Author **Despoina loakeimidou** collected the data from responses i.e. author has prepared empirically tests a conceptual framework for Human Resource analytics adoption by integrating the institutional theory, diffusion of innovation and resource based view within the Technology organization environment framework by using the data from 152 managers in greek organizations, findings show that technological and organizational contexts are strongly influencing organizational analytics maturity and human resource analytics adoption, while the environmental factors are insignificant.

The quantitative study **“The impact of implementing Human Resources analytics on Human Resource Management decision making, 2025** Author **Ayu Trisanti**, has analysed the impact of HR analytics and decision-making effectiveness in Human Resource Management across multiple industries. This study findings show HR analytics significantly improves decision accuracy in recruitment, employee retention, and performance management. The study identifies the key contextual hurdles, such as low data literacy, inadequate technological infrastructure and resistance to change, which limit the optimal usage. This study emphasizes the importance of developing HR analytics competencies and fostering a data driven culture, reinforcing that organizational readiness strengthens the HR analytics adoption while behavioural resistance weakens its practical impact.

**“Tackling the HR digitalization challenges: key factors and barriers to HR analytics adoption”** Author **Vicenc Fernandez, Eva Gallardo-Gallardo**, the literature on HR analytics indicates that, although the concept has attracted attention in the last couple of years, its meaning is often blurred-most of the time viewed as mere reporting, whereas in other instances it is considered a strategic tool for decision-making. Researchers underline that its adoption is hampered by a variety of barriers, which involve poor data quality and inadequate technology, lack of skills, and managerial resistance. Despite these challenges, there is a growing convergence that HR analytics is about using workforce data in a systematic way to generate insights that inform organization strategy. Emphasis is placed on the fact that, when implemented accordingly, HR analytics can bridge the gap between people management and business performance, although most organizations still struggle from potential to practice.

### 3. Research Methodology

#### 3. Research Gap

This study fill the gap between the Human Resource Analytics and Theoretical frameworks of HRA such as, TOE, RBV, Open systems and their implementation in industries. It also fills the gap of practitioner perspectives on various challenges such as data quality, leadership, budget etc.

#### Research Design

This is Quantitative research in order to examine the contextual challenges influencing the adoption and implementation of HR analytics in organization. **Quantitative Method:** This approach allows the researcher to measure variables like HR analytic tools, adoption methods, influence of HR analytical tools statistically. This design enables the use of a structured questionnaire, allowing for an objective

analysis of how current HR analytical tools, influence of HR tools, and challenges are impacting on adoption of HR analytics in organization. This study corresponds with the primary objectives of finding out the challenges in adoption of HR analytics in organization by using different type of scale questions in the survey and this survey has conducted from the employees.

### Sample & Data collection techniques

**Sampling:** The study was using a probability convenience sampling Technique, targeting respondents are employees in organization who are working as HR professionals across different industries,

**Sample size:** The data collected from 72 respondents i.e. HR professionals in organization.

**Sampling technique:** By using the convenience sampling technique the data has collected, that means the respondents have selected only based on the accessibility and their convenience.

### Data Collection Methods:

**Primary Data:** this data has collected by using a structured questionnaire by sending the google forms i.e. the information has collected directly from the employees it means primary source.

The questionnaire has included different scaling to collect and analyse the data:

- Likert scale
- Multiple choice scale
- Ranking scale

**Secondary Data:** this data has collected from the previous papers, journals etc. that means from the secondary resources like (Emerald, Google Scholar), articles, journal papers etc.

### Data Analysis

➤ The data collected from 72 respondents, most of them i.e. 61.1% respondents are working in 'other' designation, out of 72 respondents 16.7% of them are working as HR executive, 15.3% as HR manager, 0.6% of them are working as Senior HR manager role and only 1.4% out of 72 respondents is working as HR head/Director. HR analytics may influence the different designation i.e. influence the strategic levels understandings.

➤ The data collected from 72 respondents, most of them are working in IT industry/ Tech companies i.e. around 43.1% out of 72 respondents, 11.1% of them are working in Manufacturing organization, 18.1% of them are working in the Banking sector, 26.4% of the respondents are working in other sectors, and very less that mean 1.4% out of 72 respondents is working in Health care sector. This clearly says that HR analytics is mostly influenced to IT sectors.

➤ The data collected from 72 respondents clearly shows that most or the employees are agreed and said 'Yes' that means majority 79.2% of them have said the HR analytical tools are used in organization, and very few i.e. least members around 20.8% of the respondents have said 'No' they said that the HR Analytical tools are not used in their organizations. This information clearly examines that most of the organizations are used these HR Analytical tools.

- From the data it shows that most of the respondents around 47.2% of the employees have agreed, 33.3% of the respondents out of 72 are having neutral opinion on this and 11.1% of the respondents have strongly agreed, 8.33% of the respondents have Strongly disagreed, this clearly shows that HR professionals in organization most of them have accepted and agreed that they have sufficient HR Analytical tools.
- The data collected from respondents clearly shows that these budget constraints limit may occur sometimes in the organization majority around 45.8% of them have said, 29.2% of the employees have said constraints often occur in organization, 11.1% of the respondents said it never occurred, and very few have said around 13% of the employees out of 72 by totalling both rarely and always. Thus most of the organization face the budget constraints to invest in HR Analytical tools and required infrastructure.
- From the data it is clearly shows that majority of the respondents around 87.5% of the them have agreed and said 'Yes' and very few i.e. 12.5% of the respondents have said 'No', this data examines that in organization most of the HR analytics insights are effectively impact into managerial decision-making.
- The data collected shows that majority of the respondents 45.8% out of 72 have agreed, 34.7% of the respondents have neutral opinion, very few i.e. 8.3% of them have strongly agreed, 6.9% respondents have disagreed and least percent respondents 4.2% have strongly disagreed. Thus the analysis shows employees who works in organizations have agreed that the top-level management support the HR analytics adoption in organization actively.
- From the data collected most of the respondents have agreed and equally neutral that mean 38.9% of the respondents agreed and 38.9% of the respondents have neutral opinion, 8.3% of them strongly agreed, 9.7% of the respondents have disagreed, 4.2% out of 72 have strongly disagreed. Thus it clearly shows that there is resistance to change limits among employees and the adoption of HR analytic tools in organization.
- The data shows that most of the respondents like around 41.7% agreed there is high collaboration(4) between HR, IT and Finance in HR analytics initiatives, 11.1% of the respondents have said less collaboration(2), few of them said neutral i.e. 26.4% respondents, 19.4% of the respondents have agreed there is very high collaboration(5), and 1.4% out of 72 respondents said very less collaboration.
- From the data about how often do inadequate data quality affects HR analytical usage, majority 36.1% of them said that sometimes it does, 30.6% of the respondents have selected often or neutral, there is an equal count of respondents that is 12.5% of them agreed always and other 12.5% of them said rarely, very few 8.3% of them said it has never inadequate data quality effect of using HR analytics.
- The data collected from 72 respondents clearly shows that 33.3% of them said there is sometimes the insufficient leadership commitment delay or limit HR analytics initiative, 31.9% of them said often or regular, 15.3% of the respondents have mentioned always there is an insufficient leadership commitment, 11.1% of the respondents have said that happens rarely and at last very few 8.3% of them have said that never. Thus it clearly examines that sometimes there will be insufficient leadership commitment delay of HR analytics in organization.

## Findings

### 1. High adoption of HR Analytical Tools

A majority (79.2%) of organizations are already using HR analytical tools, indicating growing awareness and adoption across industries.

### 2. Dominance of IT Sector

Most respondents (43.1%) belong to IT sector, showing that HR analytics adoption is more prominent in tech-driven industries.

### 3. Moderate Analytical Skills among HR professionals

While (47.2%) agree they have sufficient analytical skills, a significant portion (33.3%) remains neutral, highlighting a skill gap in HR analytics competency.

### 4. Budget constraints as a key barrier

Around (45.8%) of respondents reported that budget constraints sometimes limit investment in HR analytical tools and HR infrastructure.

### 5. Effective use of insights in Decision Making

A strong majority (87.5%) stated that HR analytics insights are effectively translated into managerial decisions, showing practical value when implemented.

### 6. Top Management support is present but not strong

While (45.8%) agree that top management supports HR analytics, a large neutral segment (34.7%) indicates inconsistent leadership commitment.

### 7. Resistance to change still exists

Around (38.9%) agree that resistance to change limits adoption, when an equal percentage remains neutral, indicating a significant behavioural barrier.

### 8. Collaboration across departments is relatively strong

Most respondents (41.7%) reported high collaboration between HR, IT and finance, which is positive factor for implementation success.

### 9. Data quality issues affect usage

A majority reported that poor data quality affects HR analytical usage 'sometimes' (36.1%) or 'often' (30.6%), making it a critical challenge.

### 10. Leadership gaps delay implementation

About (33.3%) said lack of leadership commitment sometimes delays HR analytics initiatives, and (31.9%) said it often does, showing leadership inconsistency.

## Conclusion

The study concludes that although HR analytics adoption is gaining momentum especially in technology driven sectors, organizations still face multiple contextual challenges that hinder its full implementation.

While most organizations have adopted HR analytics tools and are successfully using insights for decision making, the transition from data to practice is not seamless. Key barriers such as limited analytical skills, inconsistent leadership support, budget constraints, poor data quality, and resistance to change continue to restrict effective utilization.

The findings emphasize that HR analytics adoption is not purely a technological issue, but a multi-dimensional process influenced by organization readiness, cultural acceptance, leadership commitment, and data governance.

## Suggestions

### To achieve successful implementation, organization must

1. Invest in skill development and training.
2. Strengthen leadership commitment.
3. Improve data quality and infrastructure.
4. Foster a data-driven culture.
5. Enhance cross-functional collaboration.

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