

Article

Strategic Misalignment, Corporate Governance, and HR Analytics Adoption: A Qualitative Study for Sustainable Organisations in the Airline Industry

António Pimenta de Brito ^{1,2,*}  and Ricardo S. Santos ^{3,4} 

¹ Business Research Unit (BRU), Instituto Universitário de Lisboa (ISCTE), Av. das Forças Armadas, 1649-026 Lisboa, Portugal

² Escola Superior de Ciências da Administração (ESCAD), Instituto Politécnico da Lusofonia (IPLUSO), 1950-396 Lisbon, Portugal

³ Governance, Competitiveness and Public Policies Research Unit (GOVCOPP), Universidade de Aveiro, Campos Universitário de Santiago, 3810-193 Aveiro, Portugal; ricardosimoessantos84@ua.pt

⁴ Escola Superior de Engenharia e Tecnologias (EET), Instituto Politécnico da Lusofonia (IPLUSO), 1950-396 Lisbon, Portugal

* Correspondence: acpbo@iscte-iul.pt

Abstract

Human Resource Analytics (HRA) is expected to improve workforce decision-making, yet many organisations struggle to translate people analytics into strategic and governance value. This article draws on a focused qualitative re-analysis of 13 semi-structured interviews from a broader exploratory mixed-method study of HRA in Portugal's commercial airline sector. The analysis shows that strategic misalignment emerged inductively as a central explanation for limited HRA adoption. Three barriers were identified: HR's marginal role in strategic decision-making, fragmented data and cross-functional silos, and inconsistent executive sponsorship for analytics-driven people management. These conditions restrict HRA to descriptive reporting, weaken evidence-based governance of workforce decisions, and limit its contribution to organisational sustainability. The study contributes to the HRA literature by positioning strategic alignment as an emergent antecedent of analytics impact in operationally complex and highly regulated sectors. It shows that HRA creates organisational value only when workforce capability, operational resilience, and business priorities are connected through governance arrangements and executive commitment.

Keywords: human resource analytics; strategic alignment; corporate governance; sustainable organisations; people analytics; digital transformation; airline industry; qualitative research



Academic Editor: Manfred Max Bergman

Received: 30 April 2026

Revised: 21 June 2026

Accepted: 30 June 2026

Published: 1 July 2026

Copyright: © 2026 by the authors.

Licensee MDPI, Basel, Switzerland.

This article is an open access article distributed under the terms and

conditions of the [Creative Commons](#)

[Attribution \(CC BY\)](#) license.

1. Introduction

Human Resource Analytics (HRA) has become a prominent approach to evidence-based workforce decision-making. It can support recruitment, retention, training, performance management, and workforce planning through systematic use of people-related data [1–4]. However, the conceptual growth of HRA has outpaced evidence of its effective organisational use [5]. Recent reviews continue to identify a gap between promise and implementation, particularly in qualitative studies of how HRA is understood and applied in practice [6–12].

This problem is especially relevant in commercial aviation. Airlines depend on qualified labour, recurrent training, regulatory compliance, safety-sensitive work, and close

coordination between operational and commercial units. These features should make HRA strategically valuable. Yet the evidence examined here indicates that HRA remains constrained when HR is not integrated into core business strategy.

This article builds on a broader exploratory mixed-method case study of HRA in Portugal's commercial airline sector [13]. The original study did not begin by testing strategic alignment as a predefined explanation for HRA project failure. Instead, it asked exploratory questions about the role of HR in commercial airlines, how HRA is understood by aviation and analytics professionals, how HRA could be used in the airline industry, and which organisational and data-related conditions enable or constrain its adoption.

The empirical analysis revealed, however, a recurrent pattern that was not fully developed in the original study as a distinct research gap: respondents repeatedly described weak HR–business alignment, the subordinate position of HR in airline decision-making, and fragmented data governance as barriers to creating value through analytics. This article therefore revisits and extends that exploratory evidence to address a theoretical discussion in the HRA literature: why HRA initiatives often fail to move from technical possibility to organisational impact. The guiding question developed for this article is: how does the emergent pattern of strategic misalignment between HR and the business help explain constraints on the adoption and usefulness of HRA in the airline industry?

The general objective is to examine how an exploratory study of HRA use in commercial aviation reveals strategic alignment as a condition shaping the adoption and organisational value of HRA. The specific objectives are to: (1) identify the main HR roles and challenges in commercial airlines; (2) To analyse how HR is aligned, or misaligned, with business strategy; (3) To explore how professionals understand the potential uses of HRA. (4) To identify the organisational and data-related conditions that enable or limit analytics-based decision-making. (Table 1).

Table 1. Research question developed from the exploratory findings.

Element	Formulation
Research question	How does strategic misalignment between HR and the business constrain the adoption and usefulness of HRA in the airline industry?
General objective	To examine how an exploratory study of HRA use in commercial aviation reveals strategic alignment as a condition shaping the adoption and organisational value of HRA
Specific objective 1	To identify the main HR roles and challenges in commercial airlines.
Specific objective 2	To analyse how HR is aligned, or misaligned, with business strategy.
Specific objective 3	To explore how professionals understand the potential uses of HRA.
Specific objective 4	To identify the organisational and data-related conditions that enable or limit analytics-based decision-making.

The article draws on semi-structured interviews with 13 professionals connected to Portugal's commercial aviation sector. It argues that strategic alignment was not the initial hypothesis of the original study, but an inductively identified pattern that helps explain why HRA may remain a peripheral reporting activity rather than a governance and decision-support capability.

2. Literature Review

This section develops the conceptual framework for the empirical analysis. It reviews HRA as a decision-support capability, identifies key implementation conditions, and explains why strategic alignment provides a useful lens for interpreting the emergent findings of the exploratory study.

Consistent with the ESG perspective, organisational sustainability is viewed as the capacity to generate long-term value through the integration of environmental, social, and governance considerations into organisational processes and decision-making [14,15]. In the context of this study, particular attention is given to the social and governance dimensions of sustainability, including workforce capability, employee well-being, strategic alignment, and governance mechanisms that enable evidence-based decision-making.

HRA sits at the intersection of strategic human resource management, information systems, business analytics, and organisational decision-making [2,3,9]. The strategic positioning of HR influences the extent to which workforce information can contribute to organisational decision-making [16]. Terms such as people analytics, workforce analytics, and talent analytics differ, but they share a common aim: using data to improve decisions about people and work.

2.1. Human Resource Analytics and the Implementation Gap

The literature presents HRA as a capability that can move HR from intuition-based judgement to evidence-informed decisions on recruitment, retention, performance, development, and employee well-being [1,6,17]. In practice, many organisations still rely on descriptive reporting, compliance metrics, dashboards, and retrospective indicators [18]. This creates a persistent gap between HRA's rhetorical promise and its organisational impact.

Prior research links this gap to limited analytical skills, fragmented data infrastructures, weak governance, insufficient managerial support, and poor translation of analytics into action [12,19–22]. These barriers are not purely technical. They also concern HR legitimacy, cross-functional collaboration, and the connection between analytics and recognised business problems [23].

2.2. What Effective HRA Requires

Effective HRA requires more than software or modelling expertise. It depends on reliable data, clear problem formulation, analytical capability, managerial trust, ethical governance, and routines that bring evidence into decision-making [24–27]. Recent literature stresses that analytics creates value only when insights are translated into interventions, decisions, and stakeholder-relevant outcomes [28–30].

This logic implies that HRA should begin with organisational questions, not with data availability alone. Predictive models for turnover, recruitment quality, training demand, or fatigue are useful only when the organisation has defined the problem, integrated relevant data, assigned decision rights, and committed to action.

2.3. Airline-Specific Relevance of HRA

Commercial aviation is a valuable context for examining HRA because workforce capability is closely linked to safety, service quality, punctuality, compliance, and cost control. Airlines require continuous training, certification management, safety-sensitive recruitment, operational resilience, and coordination across HR, operations, finance, and commercial functions. Aviation research also highlights the importance of human factors, training, and error management in commercial air transport [31–33].

These sectoral features make people-related evidence strategically relevant. HRA could support retention analysis, recruitment forecasting, training planning, skills mapping, well-being monitoring, and analysis of the link between workforce conditions and operational outcomes. Yet relevance does not guarantee adoption. If HR lacks strategic authority, airline complexity may reinforce reactive HR practices rather than analytics-led decision-making.

2.4. Strategic Alignment as an Emergent Interpretive Lens

Recent research suggests that the effectiveness of HR Analytics depends not only on technical capabilities but also on the interaction between HR, management, and other organisational stakeholders involved in the analytics process [30]. Strategic alignment refers to the integration of HR priorities, capabilities, and practices with broader organisational objectives and business strategy [34,35]. It is related to, but distinct from, executive sponsorship and governance. Executive sponsorship refers to senior leaders' commitment to legitimising analytics, allocating resources, and supporting evidence use [29,36]. Governance refers to the structures, decision rights, accountability mechanisms, and information processes through which analytics is coordinated and translated into action [3,12,20].

These concepts help interpret the emergent finding that strategic alignment shapes the effectiveness of sponsorship and governance. When HR is peripheral to business strategy, analytics is likely to remain descriptive, fragmented, or symbolic. When HR is strategically embedded, HRA is more likely to connect people evidence with operational and organisational performance. This distinction frames the empirical analysis without treating strategic alignment as the original hypothesis of the study.

3. Materials and Methods

3.1. Research Design

This article uses the qualitative component of a broader exploratory mixed-method case study on HRA in Portugal's commercial airline sector [15]. The original research design was exploratory: it sought to understand the role of HR in commercial airlines, how professionals define and interpret HRA, how HRA could be used in aviation, and which organisational and data-related conditions shape its adoption. This approach responds to calls for more qualitative and case-based evidence in HRA research [7,9,37,38]. A qualitative design was appropriate because the study investigates how professionals interpret HRA, describe organisational barriers, and connect analytics adoption to sector-specific organisational dynamics. The qualitative component comprised 13 interviews; the present article re-analyses that ethically approved interview material to develop the emergent strategic-alignment pattern as a distinct theoretical contribution.

Semi-structured expert interviews were the primary data collection method. This format ensured comparability across respondents while allowing follow-up questions on sector-specific experiences. Expert interviews were suitable because participants were approached as knowledgeable actors with professional experience in HR, aviation management, or analytics [37,38].

The design also addresses a limitation in the HRA literature: the relative scarcity of qualitative studies that examine HRA as practice rather than aspiration [7,12]. Much existing research is conceptual, survey-based, or centred on best-practice models. Fewer studies examine how HRA is interpreted by actors working in sector-specific organisational settings. The study is therefore exploratory and interpretive. Strategic misalignment was not treated as an initial hypothesis or predefined explanatory variable; rather, it emerged through repeated coding and comparison as a salient pattern in participants' accounts.

The case study logic is also appropriate because HRA adoption is not only technical. It is shaped by historical arrangements, power relations, governance structures, and decision routines. These dimensions are difficult to capture through decontextualised instruments. The airline setting, with its operational intensity and dependence on human capability, is therefore well suited to this inquiry.

3.2. Participants and Data Collection

The qualitative dataset analysed in this article included 13 interviews across three groups: Experts in AI ($n = 5$), HR/Airline Professionals ($n = 3$), and HR/Airline Executives ($n = 5$) (Table 2). This article focuses on the interviews most directly related to HRA definitions, potential HRA uses, aviation HR challenges, and the organisational conditions affecting HRA adoption in Portugal's commercial airline industry. Participants held senior or expert roles in HR, training, people analytics, aviation operations, association leadership, consulting, and artificial intelligence.

Table 2. Profile of expert interviewees.

Code	Type of Interview	Type of Interviewee	Age	Gender	Years of Experience/Field
E1	Interview to expert	Expert in AI	41	M	15
E2	Interview to expert	Expert in AI	59	M	25
E3	Interview to expert	Expert in AI	32	M	7
E4	Interview to expert	Expert in AI	53	M	31
E5	Interview to expert	Expert in AI	52	M	25
E6	Interview to expert	HR/Airline Professional	51	M	41
E7	Interview to expert	HR/Airline Professional	58	M	30
E8	Interview to expert	HR/Airline Professional	54	M	31
E9	Interview to expert	HR/Airline Executive	54	M	31
E10	Interview to expert	HR/Airline Executive	65	M	41
E11	Interview to expert	HR/Airline Executive	62	M	40
E12	Interview to expert	HR/Airline Executive	47	M	20
E13	Interview to expert	HR/Airline Executive	51	M	30

Participants were selected through purposive sampling based on their expertise in human resource management, airline operations, analytics, or executive decision-making. The aim was not statistical representativeness, but the selection of information-rich cases able to illuminate the organisational conditions affecting HRA adoption.

The qualitative interviews were conducted between January and March 2023, either in person or by videoconference, following semi-structured expert interview practice in qualitative management research [37,38]. Interviews were recorded after written informed consent and final authorisation from the ISCTE-IUL Ethics Committee (No. 79/2023). Anonymity and confidentiality were guaranteed. The interview guides addressed two broad issues: the main HR challenges in airlines and the potential contribution of HRA to decision-making in that context.

The sample was intentionally heterogeneous. AI experts provided insight into modelling logic, data requirements, and the conditions needed for analytics to move beyond descriptive reporting. HR/Airline professionals discussed the day-to-day realities of people management, compliance, recruitment, and training. HR/Airline executives added a broader view of business priorities, sector constraints, and HR's strategic status. This mix made it possible to compare both knowledge of HRA and the professional positions from which that knowledge was produced.

The interview guides were adapted to each respondent group but followed a common structure. Questions addressed definitions of HRA, current and potential applications, HR problems in aviation, airline business needs, relevant indicators, and the alignment between HR and strategy. This design preserved thematic coherence while allowing respondents to emphasise the issues they considered most salient.

3.3. Data Analysis

Interviews were transcribed and analysed using thematic content analysis [39,40]. For data management and visualisation, Microsoft Word and Excel were used to compile, tabulate, and present the results, which were later synthesised into text form for interpretation. The analysis combined semantic segmentation with inductive coding to identify recurring themes, subthemes, and interpretive patterns across respondent groups [41,42]. Coding initially focused on the exploratory dimensions of the original study: HR roles and challenges in airlines, professionals' understandings of HRA, potential HRA applications, and the organisational and data-related conditions that enable or constrain adoption.

Data collection continued until thematic saturation, when additional interviews no longer generated substantively new insights into HRA meanings, potential applications, barriers, or organisational conditions associated with adoption. The analysis proceeded in three stages. First, open coding identified recurrent concepts such as training, recruitment, retention, strategic alignment, data quality, and governance. Second, related codes were grouped into categories covering HR roles, airline business needs, HRA applications, and data conditions. Third, higher-order themes were developed through comparison across HR professionals, airline executives, and AI experts. It was at this stage that strategic misalignment became visible as a recurrent cross-cutting pattern linking HR's organisational position, executive sponsorship, and data governance. Frequencies were used descriptively to identify recurring patterns; the emphasis remained interpretive rather than statistical.

The lead researcher conducted the coding, which was then reviewed through iterative discussions between the authors. Theme refinement involved repeated comparison of coded segments, emerging categories, and the interview material to ensure interpretive consistency. Given the dataset size, coding was conducted manually rather than with dedicated qualitative analysis software. Analytical rigour was supported through systematic documentation of coding decisions, comparison across respondent groups, continuous reference to transcripts, use of illustrative quotations, and triangulation of HR, aviation management, and AI perspectives.

As researchers with backgrounds in aviation, IT, Artificial Intelligence, management, HRM, and organisational studies, we recognise that prior theoretical knowledge may shape interpretation. To mitigate potential bias, coding decisions were continuously revisited against the interview transcripts and discussed throughout the analytical process to ensure that themes remained grounded in participant accounts rather than researcher assumptions.

To enhance transparency regarding the analytical process, Table 3 presents the coding structure linking initial interview codes, analytical categories, and final themes. Following Braun and Clarke's (2006) thematic analysis approach [40], coding was conducted iteratively through repeated engagement with the interview transcripts. Similar codes were grouped into broader analytical categories, which were subsequently refined into higher-order themes capturing recurring patterns of meaning across participants. This process resulted in three interconnected themes: (1) Structural Disconnect Between HR and the Business, (2) Executive Ambivalence Toward Analytics-Led People Management, and (3) Siloed Data Practices and Fragmented Decision-Making (Table 4).

Together, these themes illustrate how strategic misalignment emerged as a recurring cross-cutting pattern across participant accounts. Rather than being specified as a predefined explanatory framework, strategic misalignment became visible through the iterative process of coding, categorization, and theme development. The coding structure therefore provides a transparent audit trail, linking the empirical material to the article's interpretive argument concerning HRA adoption in the airline sector.

Table 3. Coding structure and theme development.

Initial Codes	Analytical Categories	Final Theme
Training, qualifications, certifications, recurrent training, reskilling and upskilling	Operational responsibilities of HR in airlines	Structural Disconnect Between HR and the Business
Recruitment and selection of safety-critical personnel	Workforce capability and compliance management	Structural Disconnect Between HR and the Business
Individualised employee support and people management	Employee-centred HR practices	Structural Disconnect Between HR and the Business
Labour relations, collective agreements, regulatory compliance	Administrative and compliance-oriented HR role	Structural Disconnect Between HR and the Business
Lack of strategic alignment between HR and business strategy; lack of business knowledge among HR professionals; HR acting primarily as a receiver of operational requests; low organisational influence of HR; need for greater HR participation in strategic planning; difficulties transferring strategic plans into operational action	Weak strategic integration of HR	Structural Disconnect Between HR and the Business
Recognition of analytics as a valuable decision-support tool	Perceived usefulness of HRA	Executive Ambivalence Toward Analytics-Led People Management
Use of indicators, metrics and performance averages	Analytics as measurement and reporting	Executive Ambivalence Toward Analytics-Led People Management
Understanding HRA as strategic data analysis	Strategic potential of analytics	Executive Ambivalence Toward Analytics-Led People Management
Employee churn prediction models; recruitment forecasting and candidate-selection models; employee lifetime value analysis; training recommendation and workforce-planning models	Strategic applications of HRA	Executive Ambivalence Toward Analytics-Led People Management
Limited familiarity with HRA among some participants	Uneven understanding of analytics capabilities	Executive Ambivalence Toward Analytics-Led People Management
Recognition of analytics benefits without corresponding organisational structures; positive attitudes toward analytics but limited implementation capacity	Recognition without sustained sponsorship	Executive Ambivalence Toward Analytics-Led People Management
Data availability identified as a critical success factor; data quality identified as a critical success factor; data preparation and processing challenges	Data quality and accessibility challenges	Siloed Data Practices and Fragmented Decision-Making
Need to formulate business problems before modelling	Organisational readiness for analytics	Siloed Data Practices and Fragmented Decision-Making
Dependence on cross-functional collaboration	Organisational integration challenges	Siloed Data Practices and Fragmented Decision-Making
Fragmented access to organisational information	Fragmented information environment	Siloed Data Practices and Fragmented Decision-Making
Operational performance indicators (flights, efficiency, incidents, capacity planning); customer experience indicators (service quality, punctuality, customer satisfaction); HR indicators (turnover, recruitment, retention, onboarding, training)	Cross-functional analytics requirements	Siloed Data Practices and Fragmented Decision-Making
Employee competencies and development indicators	Workforce capability analytics	Siloed Data Practices and Fragmented Decision-Making
Employee well-being, fatigue, stress and health indicators	Workforce well-being analytics	Siloed Data Practices and Fragmented Decision-Making

Figure 1 presents the research design model adopted in this study. It illustrates the overall analytical process, showing how the broader exploratory inquiry informed the

thematic analysis, how the emergent findings were developed from this analysis, and how these findings ultimately led to the study's theoretical and practical implications. The figure provides an overview of the research logic and the progression from data collection and analysis to the interpretation of results.

Table 4. Resume table of findings by objective and theme.

Objective	Empirical Theme	Main Recurring Findings	Interpretive Result
SO1	Role and challenges of HR in airlines	Training, certifications, compliance, careful recruitment, soft skills, retention, unionisation, and high HR costs were repeatedly identified.	HR is operationally indispensable but often treated as reactive.
SO2	Strategic alignment between HR and business	Respondents reported chronic misalignment, weak HR power, limited business language, and subordination of HR to operational requests.	Strategic marginalisation of HR is a central barrier to HRA adoption.
SO3	Uses and perceptions of HRA	HRA was associated with indicators, strategic data analysis, churn prediction, recruitment forecasting, training planning, and skills analysis, but understandings varied.	The sector contains meaningful analytics problems, but HRA maturity remains uneven.
SO4	Data and governance conditions	Data quality, access, integration, problem formulation, CRISP-DM, cross-functional work, and business value were repeatedly stressed.	Data fragmentation and weak governance prevent analytics from becoming decision support.

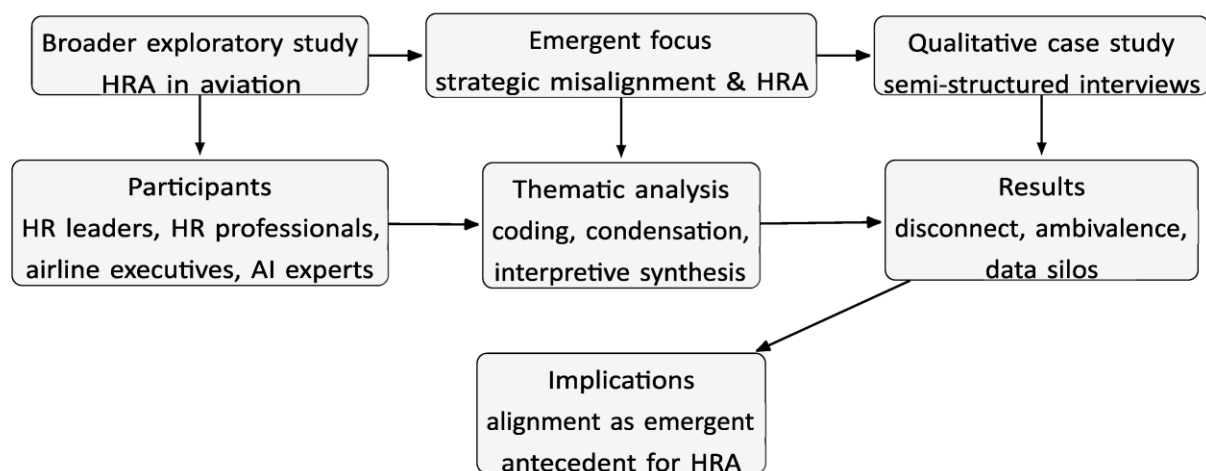


Figure 1. Research design model linking the broader exploratory inquiry, thematic analysis, emergent findings, and study implications.

4. Results

This section presents the empirical evidence from the interviews. It does not restate the conceptual argument developed in the literature review; instead, it reports the patterns that emerged from the data and links them to the study's research question and objectives. Three themes structure the findings: structural disconnect between HR and the business, executive ambivalence toward analytics-led people management, and siloed data practices.

4.1. Structural Disconnect: HR Remains Reactive Rather than Strategic

Interviewees consistently described HR in airlines as operationally necessary but strategically marginal. HR was seen as central to training, compliance, recruitment, labour relations, and employee administration, yet not fully integrated into the strategic centres where business priorities are defined. This was especially striking given that participants

also emphasised that airlines depend heavily on human capabilities, regulatory compliance, and service quality—all areas in which HR should be structurally relevant (Table 5).

Table 5. Summary of key findings on HR roles and misalignment in airlines.

Dimension	Main Evidence from Interviews	Interpretive Implication
HR core roles	Training, qualifications, compliance, recruitment, labour relations, and employee administration were repeatedly identified as central HR responsibilities.	HR is operationally indispensable in aviation.
Strategic positioning	HR was described as reactive, weakly represented in strategic forums, and insufficiently involved in business planning.	HR lacks the strategic legitimacy required for HRA impact.
Airline-specific pressures	Respondents stressed certifications, safety-sensitive recruitment, unionisation, and high training costs as sector-specific realities.	Airline HR is more consequential and more constrained than generalist HR.
Alignment with business strategy	Executives indicated that HR strategy and business strategy were poorly aligned or not aligned at all.	Misalignment is a structural barrier rather than an isolated implementation issue.

Training emerged as the most prominent HR responsibility, which aligns with prior aviation-focused evidence on the centrality of training and development in airline HR management [31,32]. Respondents stressed the importance of qualifications, certifications, reskilling, and upskilling in a sector where competence is tightly regulated and operational errors can have severe consequences. Recruitment and selection were also described as crucial, particularly because aviation requires both technical competence and strong behavioural qualities such as adaptability, resilience, communication, and discipline. At the same time, HR was rarely portrayed as a decisive voice in business planning.

This disconnect became most explicit in the discussion of strategic alignment. The executives interviewed unanimously indicated that alignment between HR strategy and business strategy was either absent or severely underdeveloped. HR was described as lacking influence, not speaking the language of the business, and being called upon mainly to respond to operational requests rather than to help shape organisational direction. In effect, HR was positioned downstream from strategy rather than inside it.

The following anonymised excerpts illustrate this perceived strategic marginalisation of HR:

“There is a habitual lack of knowledge among human resources departments regarding business strategy.”

“There is a common lack of knowledge among human resources departments regarding business strategy. The worst thing is that they don’t know how to speak the business language.”

“Human resources cannot just be used to process salaries and fire someone from time to time. They must play a central role in outlining the organisational strategy.”

This finding is central to the article’s argument. If HR is not meaningfully involved in defining business priorities, HRA is unlikely to evolve into a strategic capability. Instead, it will tend to serve reporting or administrative functions, disconnected from the real drivers of organisational performance.

The interview material also makes clear that this structural disconnect has sector-specific consequences. In airlines, HR is not merely responsible for generic personnel administration. It is deeply implicated in qualification management, recurrent training,

regulatory compliance, recruitment for safety-critical roles, and labour relations in highly unionised environments. Respondents repeatedly described commercial aviation as a setting where error management, certification, and people readiness are central to organisational survival. Yet even under these conditions, HR was often portrayed as receiving requests from operations rather than helping define the strategic agenda.

Another point that emerged strongly concerns the difference between generalist HR and airline HR, especially with respect to compliance, certification, safety-critical recruitment, and error management [33]. Participants emphasised that aviation HR must cope with stricter compliance requirements, higher training costs, stronger union influence, and a greater need for critical soft skills such as adaptability, resilience, communication, and self-regulation. Recruitment was described as especially consequential because errors in selection may affect not only efficiency but also safety. These insights reinforce the paradox identified by the study: the more consequential the people dimension becomes, the more problematic it is that HR lacks strategic voice.

This helps explain why respondents simultaneously viewed HR as indispensable and insufficiently empowered. They recognised the importance of HR tasks, but they did not see HR as fully authorised to shape wider business choices. That contradiction lies at the heart of the article's notion of strategic misalignment.

4.2. Executive Ambivalence: Recognition Without Sponsorship

A second theme concerns the paradoxical way interviewees spoke about HRA. On the one hand, many respondents recognised that analytics could help improve decision-making in areas such as turnover, recruitment, training allocation, employee development, and operational planning. Predictive models for employee churn and candidate selection were frequently cited as especially useful. Participants also saw potential in linking people data to broader concerns such as customer service, workforce capacity, safety, and cost efficiency.

On the other hand, this recognition rarely translated into clear sponsorship or established organisational practice. Several respondents acknowledged that formal HRA structures were absent, weak, or outsourced. In some cases, analytics was described as an informal or fragmented activity rather than as a sustained organisational capability. Even where the value of HRA was accepted in principle, there was limited evidence that leaders had institutionalised it through dedicated teams, integrated governance, or strategic mandates.

This executive ambivalence is visible in the contrast between recognising possible value and hesitating to commit resources or organisational change:

"Most leaders recognise that analytics can be useful, but few are willing to invest the resources and organisational changes necessary to make it part of decision-making."

"It is not an area that I know or is even common in aviation or other sector."

"I think it can even be counterproductive."

This ambivalence reflects a broader tension. Executives appear willing to endorse analytics rhetorically, but less willing to reposition HR as a strategic actor or to invest in the organisational conditions that make analytics consequential. The result is a form of symbolic support without structural commitment. In such an environment, analytics struggles to move beyond experimentation, and HR professionals have limited authority to translate insights into action.

The interviews also revealed uneven understandings of what HRA actually is. Some participants defined it narrowly as the production of metrics, averages, or performance indicators. Others, especially those with technical backgrounds, described it more expansively as strategic data analysis capable of identifying patterns, supporting forecasts,

and informing interventions. This divergence is analytically important. It shows that the maturity of HRA in the sector is constrained not only by implementation deficits but also by conceptual fragmentation [43]. Where HRA is understood mainly as measurement, it is unlikely to receive the mandate or resources associated with advanced analytics.

In addition, respondents' examples of possible analytics use were revealing. Employee churn prediction and recruitment forecasting were among the most frequently cited applications, echoing established uses of HRA in practice and in the literature [1,44,45]. Both are highly consistent with the business realities of aviation, where turnover can be costly and hiring mistakes are difficult to absorb. Participants also mentioned the potential of analytics to support training planning, employee lifetime value estimation, skill-gap identification, stress monitoring, and better alignment between staffing needs and market demand. These examples show that the sector does not lack analytically meaningful problems; what it lacks is the institutional setup to address them systematically.

4.3. Siloed Data Practices: Fragmented Systems, Fragmented Decisions

The third major theme concerns data fragmentation. Across interviews, respondents repeatedly noted that data quality, accessibility, and governance are essential for any serious analytics initiative. However, they also described a reality in which information is dispersed across systems, incompletely structured, and difficult to integrate. This problem is not unique to HR, but it has particular consequences for HRA because workforce issues often span multiple functions and data sources.

AI experts were especially clear that the central challenge is not the algorithm itself but the surrounding data environment, a point repeatedly emphasised in the HRA and data-mining literature [10,21,24–26]. Interviewees referred to the need for problem formulation, reliable datasets, clear governance, and iterative methodologies such as CRISP-DM [46]. They mentioned tools ranging from Excel and SPSS to Python, R, and cloud-based AI platforms, but consistently emphasised that software is secondary to data quality and organisational readiness.

The interview excerpts below show how respondents connected data fragmentation to problem definition, integration, governance, and business value:

“The biggest challenge is rarely the algorithm. The real difficulty is accessing reliable and integrated data from different organisational systems.”

“First of all, it is necessary to have a problem statement and not have the data and want to study everything. Formulating the problem comes first and then analysing the data according to this specific problem.”

“The problem many times is to have data dispersed in many sources. The challenge is to integrate it and have a data governance, and finally that data has to have business value.”

The practical effect of siloed data is that analytics remains partial and difficult to operationalise. If HR data is disconnected from operational, financial, and customer-related data, then the organisation cannot easily examine how people-related variables affect business outcomes. This reinforces the marginalisation of HR because the evidence needed to demonstrate its strategic value remains weak or unavailable. In turn, weak strategic status reduces investment in better data integration. The cycle becomes self-reinforcing.

The empirical material further suggests that what counts as a relevant indicator in the airline sector extends beyond conventional HR reporting. Respondents referred not only to turnover, absenteeism, training volume, onboarding quality, and employee satisfaction, but also to punctuality, service quality, accident and incident rates, check-in times, operational efficiency, and customer satisfaction. These are not always “HR indicators”

in a narrow sense, yet participants repeatedly linked them to workforce capability and people management decisions. This is a significant insight. It suggests that in practice, the boundary between HRA and broader business analytics is porous.

Several dimensions of indicators were especially salient. One cluster concerns operational performance and efficiency, including numbers of flights, route planning, turnaround time, incidents, and error rates. A second concerns customer experience, including service quality and satisfaction. A third involves more familiar HR measures such as turnover, absenteeism, training actions, person–job fit, recruitment timing, retention after hiring, and employee motivation. A fourth concerns employee competencies and development, particularly soft skills, adaptability, business literacy, communication, leadership, and learning capacity. A fifth concerns health and well-being, including stress, fatigue, rest, and sense of belonging. Taken together, these dimensions suggest that a strategically relevant HRA agenda in airlines must be broader than conventional HR dashboards (Table 6).

Table 6. Illustrative HRA dimensions emerging from the qualitative findings.

Dimension	Examples Mentioned by Participants	Strategic Relevance
Operational performance	Flights, turnaround time, incidents, error rates, capacity-demand matching.	Links workforce capability to safety and efficiency.
Customer experience	Service quality, punctuality, check-in time, customer satisfaction, NPS.	Shows how people management shapes commercial outcomes.
HR management & recruitment	Turnover, absenteeism, training hours, onboarding, person–job fit, recruitment timing, churn, bradford factor.	Supports retention, staffing continuity, and talent acquisition.
Competencies and development	Adaptability, resilience, communication, leadership, learning capacity, business literacy.	Captures the strategic value of soft and technical skills.
Health and well-being	Stress, fatigue, rest periods, mental health, and sense of belonging.	Connects employee condition to safety-critical performance.

This observation reinforces the article’s core argument. If analytics is to demonstrate value in airlines, it must connect people variables to operational and commercial outcomes. But that kind of integration is precisely what strategic misalignment makes difficult. When HR is peripheral, it is less able to access shared data, collaborate across functions, and frame workforce questions in business terms. Siloed data practices are therefore both a symptom and a consequence of weak strategic alignment.

4.4. Strategic Misalignment as the Underlying Barrier

When read together, the findings suggest that the greatest barrier to HRA adoption is not simply a lack of tools, talent, or awareness. It is the strategic misalignment that prevents HR from being treated as a central business function. This misalignment is visible in the low influence of HR, the absence of alignment between HR strategy and business strategy, fragmented data ownership, and the absence of sustained executive sponsorship.

In practice, this means that HRA is often expected to generate value without first securing the organisational conditions required for it to matter. Analytics is introduced into an environment where HR lacks voice, data flows are siloed, and senior leadership does not consistently integrate people insights into strategic choices. Under these conditions, HRA cannot move beyond limited descriptive use. Strategic misalignment, therefore, operates as a prior barrier that shapes the impact of all other barriers.

The qualitative material supports an interpretation of misalignment as a systemic condition rather than a one-off failure. It is visible in organisational charts, reporting lines, decision routines, language, and the kinds of questions that are considered legitimate. If HR is primarily expected to process hiring requests, manage compliance, or respond

to labour issues, then analytics will tend to be evaluated according to those restricted expectations. This does not mean that descriptive metrics are useless. Rather, it means that they are insufficient to reposition HR strategically unless the surrounding governance structure changes.

This systemic perspective also helps explain why respondents repeatedly moved from talking about HRA to talking about business needs. They referred to customer service, cost control, capacity-demand matching, flight safety, financial strength, and operational readiness as key concerns of airlines. Yet they also noted that people are central to achieving these goals. The persistent difficulty, therefore, is not recognising that people matter. It is institutionalising that recognition through a strategic role for HR and a cross-functional role for analytics.

5. Discussion

The discussion interprets the empirical results in relation to the conceptual framework and prior literature, while preserving the exploratory logic of the original research design. The study began by asking what HRA means in the airline context, how it could be used, and which organisational conditions shape adoption. The central interpretation developed here is that, within those exploratory findings, HRA adoption in the airline context is constrained less by a lack of possible applications than by the organisational position of HR. Respondents identified relevant analytics uses—including churn prediction, recruitment forecasting, training planning, skills analysis, and well-being monitoring—but also described HR as weakly represented in strategic decision-making. This combination explains why HRA can be recognised as useful while remaining peripheral in practice.

The findings extend prior HRA research by clarifying the relationship between strategic alignment, executive sponsorship, and governance. Earlier studies identify leadership support, data quality, analytical capability, and governance as determinants of HRA effectiveness [4,12,19,20]. The present study does not dispute these factors. Rather, it shows how strategic alignment emerged from exploratory sector-specific evidence as a condition that shapes whether those factors can generate value. Where HR is marginal, executive support tends to remain symbolic, governance remains fragmented, and analytics struggles to influence decisions.

An additional contribution of this study lies in its sector-specific perspective. While previous HRA research has identified strategic alignment as an important determinant of analytics adoption, the present findings illustrate how misalignment manifests within the operational context of commercial aviation. Participants consistently described a disconnect between HR and operational functions, noting that HR often lacks involvement in core business decisions and is underrepresented in executive decision-making structures. Several respondents suggested that HR “does not speak the language of the operation,” reflecting a broader challenge in translating workforce insights into operational and strategic priorities. In this context, HRA adoption is constrained not only by technical or governance barriers but also by the limited strategic integration of HR within airline organisations. This finding contributes to the literature by highlighting how industry-specific organisational structures shape the conditions under which HRA can generate strategic value.

The findings do not suggest that strategic misalignment operates independently of technical and organisational constraints. Data quality limitations, fragmented information systems, analytical capability gaps, organisational culture, and governance arrangements remain important explanatory factors. Rather than replacing these explanations, the present study suggests that strategic misalignment conditions their influence by shaping organisational priorities, resource allocation, and the capacity of analytics initiatives to generate business impact.

The airline setting makes this mechanism especially visible. Commercial aviation depends on human capability for safety, service quality, punctuality, compliance, and operational resilience. In principle, these features should make people analytics highly relevant. In practice, respondents described a gap between the importance of workforce issues and the authority given to HR in strategic forums. This supports the article's argument that HRA success is organisational before it is technological.

The findings also connect HRA to corporate governance. Analytics becomes valuable when evidence is granted legitimacy, decision rights are clear, and cross-functional routines allow insights to be acted upon. In the interviews, data fragmentation and weak integration across HR, operations, finance, and commercial functions limited this process. The problem was therefore not only access to data, but also the absence of governance arrangements capable of turning people-related evidence into organisational action.

The findings may also be interpreted through the lens of digital maturity and organisational readiness frameworks. Digital maturity models emphasise that successful digital transformation depends not only on technological capabilities but also on leadership commitment, governance structures, organisational culture, and cross-functional integration [47,48]. Similarly, organisational readiness theories highlight the importance of shared commitment, leadership support, and organisational capabilities in determining whether new initiatives are successfully adopted and institutionalised [49]. From this perspective, the findings suggest that strategic alignment may represent an important dimension of organisational readiness and digital maturity, influencing the extent to which analytics capabilities can be translated into organisational value.

A final theoretical implication concerns the progression from descriptive to predictive analytics. The evidence does not suggest that airlines should abandon basic metrics or immediately pursue sophisticated models. Rather, it indicates that analytics maturity should follow business relevance: organisations first need shared definitions, reliable data, and strategically important questions; only then can predictive models for retention, recruitment, training, or fatigue produce credible value.

Accordingly, the study contributes to the HRA literature in two ways: first, by showing how an exploratory study of HRA meanings and uses can reveal strategic alignment as an antecedent condition for HRA adoption and impact; and second, by demonstrating how, in the airline industry, strategic misalignment is reinforced by a structural disconnect between HR and operational decision-making.

6. Practical and Theoretical Implications

For practice, the study suggests that airlines should not begin HRA implementation with software acquisition alone. They should begin by defining workforce problems that matter to the business, such as retention of scarce talent, recruitment quality, training readiness, safety-sensitive staffing, and employee well-being. HR, operations, finance, commercial teams, and analytics specialists should then translate these problems into answerable questions supported by integrated data and clear decision rights.

The findings also highlight the importance of governance mechanisms that extend beyond technical implementation. In highly regulated sectors, such as aviation, HRA initiatives should be supported by safeguards concerning data protection, transparency, fairness, accountability, and human oversight. As regulatory frameworks, such as the European Union AI Act [50], continue to evolve, organisations adopting predictive HR models for recruitment, retention, or workforce planning will increasingly need to demonstrate responsible governance of algorithm-assisted decision-making. Effective HRA governance therefore requires not only strategic alignment and data quality, but also mechanisms that ensure ethical and legally compliant use of analytics.

For theory, the study reframes strategic alignment as an antecedent of HRA impact. Executive sponsorship and data governance remain important, but their effectiveness depends on whether HR has sufficient legitimacy to connect people evidence with strategic priorities. This distinction helps explain why technically capable organisations may still fail to obtain value from people analytics.

Toward an Implementation Model for HRA in Airlines

The four-stage framework proposed in this subsection should be read as an exploratory conceptual model derived from qualitative evidence, rather than as a formally validated predictive model. It was developed from the empirical findings and the subsequent interpretation of recurrent patterns in the interview material. Across participant accounts, HRA adoption was associated not only with technical capability, but also with whether HR issues were recognised as business issues, whether data and decision responsibilities were distributed across functions, and whether senior managers were willing to use analytics outputs in decision-making forums.

The purpose of the framework is therefore to illustrate how respondents described the organisational conditions associated with HRA adoption in the airline sector. It brings together three patterns that appeared repeatedly in the analysis: strategic alignment between HR and business priorities, governance arrangements that make cross-functional analytics possible, and executive involvement that gives analytics sufficient legitimacy to influence decisions. In this context, governance arrangements refer to the formal and informal mechanisms through which departments define data ownership, access rights, common indicators, accountability for interpretation, ethical and data-protection safeguards, and the decision forums in which analytics outputs are reviewed.

Based on the evidence analysed, the proposed implementation model for HRA in airlines can be outlined in four linked moves. First, strategic recognition: senior leaders should treat workforce capability, retention, training readiness, and employee well-being as business variables. This reflects the finding that HRA is unlikely to become strategically useful if people-related issues remain peripheral to business planning. Second, organisational integration: HR, operations, finance, commercial teams, safety and compliance actors, and analytics specialists should coordinate around shared governance arrangements. This responds to the evidence of fragmented data practices and weak cross-functional ownership. Third, analytical consolidation: organisations should improve data quality, definitions, interoperability, and access so that people-related evidence can be connected to operational and commercial indicators. Fourth, managerial activation: analytics outputs should be discussed in forums where decisions can be taken, responsibilities assigned, and interventions reviewed. This final move reflects the finding that analytics risks remaining descriptive unless executive and managerial actors use it to support action.

Figure 2 summarises these four linked moves as an exploratory framework for HRA implementation in airlines.

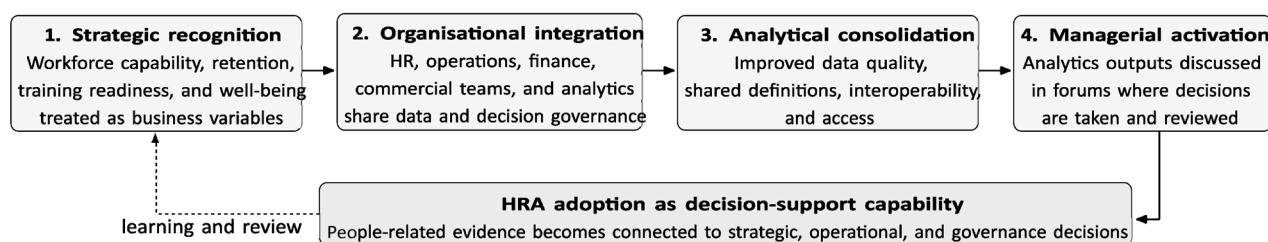


Figure 2. Exploratory implementation model for HRA in airlines emerging from the qualitative findings.

The sequence should not be interpreted as a deterministic causal pathway. Rather, it represents a practical ordering suggested by the qualitative evidence. If organisations begin with isolated dashboards or predictive tools, they may create activity without capability. If they begin with business questions, strategic alignment, shared governance arrangements, and executive involvement, HRA is more likely to become credible decision support across departments.

7. Limitations and Future Research

This exploratory qualitative case study has several limitations. First, it focuses on Portugal's commercial airline sector, so findings should be transferred cautiously to other countries or industries. Second, the study relies on 13 expert interviews; this design is appropriate for examining perceptions and organisational dynamics, but it does not support statistical generalisation or causal inference. Third, the evidence reflects the period in which the interviews were conducted and may not capture later changes in airline strategy, digitalisation, or HR governance.

A limitation of this study is its reliance on interview data as the primary source of evidence. While interviews were particularly appropriate for exploring perceptions of strategic alignment, governance, and barriers to HRA adoption, the findings reflect participants' experiences and interpretations. Moreover, strategic alignment is not only reflected in formal documents but also in relational, cultural, and decision-making processes that are often better captured through qualitative inquiry. Future research could strengthen triangulation by combining interviews with organisational artefacts such as governance frameworks, HR analytics dashboards, and strategic planning documents.

Participant selection was informed by previous studies of human resource management and analytics in the aviation sector [51,52], which highlighted the relevance of managerial, HR, and analytical perspectives. Future research could broaden this perspective by including operation managers, safety and compliance specialists, and union representatives to further examine the cross-functional and regulatory dimensions of HRA adoption.

Future research could compare airlines across countries or examine other regulated service industries to test whether strategic misalignment has similar effects. Quantitative studies could assess whether HR–business alignment predicts HRA maturity, adoption intensity, or business impact. Longitudinal research could examine how changes in leadership, data governance, or cross-functional analytics teams alter the relationship between HR and strategic decision-making over time.

8. Conclusions

This article revisited qualitative evidence from a broader exploratory mixed-method case study on HRA in Portugal's commercial airline sector to examine a pattern that emerged from the original analysis but was not fully developed as a separate research gap: strategic misalignment between HR and the business. The study shows that HR is viewed as operationally essential for training, compliance, recruitment, labour relations, and people management, yet often remains marginal in strategic decision-making. This weak strategic position limits executive sponsorship, reinforces fragmented data practices and confines HRA to descriptive or experimental uses.

The main contribution is to reposition strategic alignment as an emergent antecedent of meaningful HRA implementation. In airline organisations, people-related evidence can support safety, service quality, retention, training readiness, and operational resilience, but only when HR has the legitimacy and governance channels needed to connect analytics with business priorities.

The findings should be interpreted in light of the study's qualitative and context-specific design. The evidence reflects perceptions drawn from a limited sample of experts associated with Portugal's commercial airline sector and is intended to support theoretical insight rather than statistical generalisation. The value of the study therefore lies primarily in theory development and analytical transferability rather than universal applicability.

The study also points to a practical agenda: clarify business problems first, integrate HR and operational data, establish cross-functional governance, and ensure that analytics outputs enter decision forums. Future research should test and refine this alignment-based explanation across sectors, countries, and longitudinal organisational change processes.

Author Contributions: Conceptualization, A.P.d.B.; methodology, A.P.d.B.; software, A.P.d.B.; validation, A.P.d.B. and R.S.S.; formal analysis, A.P.d.B.; investigation, A.P.d.B.; resources, A.P.d.B.; data curation, A.P.d.B.; writing—original draft preparation, A.P.d.B.; writing—review and editing, A.P.d.B. and R.S.S.; visualisation, A.P.d.B.; supervision, A.P.d.B. and R.S.S.; project administration, A.P.d.B. All authors have read and agreed to the published version of the manuscript.

Funding: This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Institutional Review Board Statement: This study followed all the ethics requirements regarding the data obtained and treated. This study received ISCTE-IUL's Ethics committee clearance (No. 79/2023, 14 December 2023).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author.

Acknowledgments: The authors sincerely thank all the professionals who generously participated in this study, sharing their time, expertise, and valuable insights. Their contributions were fundamental to the development of this research. The authors also wish to express their sincere gratitude to Ana Moreira and Maria José Sousa for their invaluable supervision, academic guidance, and unwavering support throughout the PhD research on which this article is based.

Conflicts of Interest: The authors declare no conflicts of interest.

References

1. Isson, J.-P.; Harriott, J.S. *People Analytics in the Era of Big Data: Changing the Way You Attract, Acquire, Develop, and Retain Talent*; Wiley: Hoboken, NJ, USA, 2016.
2. Marler, J.H.; Boudreau, J.W. An evidence-based review of HR analytics. *Int. J. Hum. Resour. Manag.* **2017**, *28*, 3–26. [CrossRef]
3. Minbaeva, D. Disrupted HR? *Hum. Resour. Manag. Rev.* **2021**, *31*, 100820. [CrossRef]
4. McCartney, S.; Fu, N. Promise versus reality: A systematic review of the ongoing debates in people analytics. *J. Organ. Eff. People Perform.* **2022**, *9*, 281–311. [CrossRef]
5. van den Heuvel, S.; Bondarouk, T. The rise (and fall?) of HR analytics. *J. Organ. Eff. People Perform.* **2017**, *4*, 157–178. [CrossRef]
6. Arora, M.; Prakash, A.; Dixit, S.; Mittal, A.; Singh, S. A critical review of HR analytics: Visualization and bibliometric analysis approach. *Inf. Discov. Deliv.* **2022**, *51*, 267–282. [CrossRef]
7. Espegren, Y.; Hugosson, M. HR analytics-as-practice: A systematic literature review. *J. Organ. Eff. People Perform.* **2023**, *12*, 83–111. [CrossRef]
8. Deloitte. 2023 High-Impact People Analytics Research: Powered by Insights2Action™. June 2024. Available online: <https://www.deloitte.com/us/en/services/consulting/articles/high-impact-people-analytics.html> (accessed on 29 April 2026).
9. Margherita, A. Human resources analytics: A systematization of research topics and directions for future research. *Hum. Resour. Manag. Rev.* **2022**, *32*, 100795. [CrossRef]
10. Minbaeva, D. Human capital analytics: Why aren't we there? Introduction to the special issue. *J. Organ. Eff. People Perform.* **2017**, *4*, 110–118. [CrossRef]
11. NTT Data. *People Analytics Maturity and Business Value Report*; NTT Data: Tokyo, Japan, 2023.
12. Wang, L.; Zhou, Y.; Sanders, K.; Marler, J.H.; Zou, Y. Determinants of effective HR analytics implementation: An in-depth review and a dynamic framework for future research. *J. Bus. Res.* **2024**, *170*, 114312. [CrossRef]

13. de Brito, A.C.P. HR Analytics in the Commercial Airline Sector in Portugal: A Mixed-Method/Case Study Analysis. Ph.D. Thesis, Iscte—Instituto Universitário de Lisboa, Lisbon, Portugal, 2025. Available online: <http://hdl.handle.net/10071/33754> (accessed on 29 April 2026).
14. Eccles, R.G.; Ioannou, I.; Serafeim, G. The impact of corporate sustainability on organizational processes and performance. *Manag. Sci.* **2014**, *60*, 2835–2857. [\[CrossRef\]](#)
15. Friede, G.; Busch, T.; Bassen, A. ESG and financial performance: Aggregated evidence from more than 2000 empirical studies. *J. Sustain. Finance Invest.* **2015**, *5*, 210–233. [\[CrossRef\]](#)
16. Boudreau, J.W.; Ramstad, P.M. *Beyond HR: The New Science of Human Capital*; Harvard Business School Press: Cambridge, MA, USA, 2007.
17. McCartney, S.; Fu, N. Bridging the gap: Why, how and when HR analytics can impact organizational performance. *Manag. Decis.* **2022**, *60*, 25–47. [\[CrossRef\]](#)
18. Deloitte Consulting LLP. *Global Human Capital Trends 2023*; Deloitte: New York, NY, USA, 2023.
19. Fernandez, V.; Gallardo-Gallardo, E. Tackling the HR digitalization challenge: Key factors and barriers to HR analytics adoption. *Compet. Rev.* **2021**, *31*, 162–187. [\[CrossRef\]](#)
20. Peeters, T.; Paauwe, J.; Van De Voorde, K. People analytics effectiveness: Developing a framework. *J. Organ. Eff. People Perform.* **2020**, *7*, 203–219. [\[CrossRef\]](#)
21. Shet, S.V.; Poddar, T.; Samuel, F.W.; Dwivedi, Y.K. Examining the determinants of successful adoption of data analytics in human resource management. *J. Bus. Res.* **2021**, *131*, 311–326. [\[CrossRef\]](#)
22. Falletta, S.V.; Combs, W.L. The HR analytics cycle: A seven-step process for building evidence-based and ethical HR analytics capabilities. *J. Work.-Appl. Manag.* **2021**, *13*, 51–68. [\[CrossRef\]](#)
23. Rasmussen, T.; Ulrich, D. Learning from Practice: How HR analytics avoids being a management fad. *Organ. Dyn.* **2015**, *44*, 236–242. [\[CrossRef\]](#)
24. Boudreau, J.W.; Cascio, W.F. Human capital analytics: Why are we not there? *J. Organ. Eff. People Perform.* **2017**, *4*, 119–126. [\[CrossRef\]](#)
25. King, K.G. Data analytics in human resources: A case study and critical review. *Hum. Resour. Dev. Rev.* **2016**, *15*, 487–495. [\[CrossRef\]](#)
26. Levenson, A.; Fink, A. Human capital analytics: Too much data and analysis, not enough models and business insights. *J. Organ. Eff. People Perform.* **2017**, *4*, 145–156. [\[CrossRef\]](#)
27. Minbaeva, D. Building credible human capital analytics for organizational competitive advantage. *Hum. Resour. Manag.* **2018**, *57*, 701–713. [\[CrossRef\]](#)
28. Guenole, N.; Ferrar, J.; Feinzig, S. *The Power of People: Learn How Successful Organizations Use Workforce Analytics to Improve Business Performance*; Pearson: London, UK, 2017.
29. Rasmussen, T.; Ulrich, D.; Ulrich, M. Moving people analytics from insight to impact. *Hum. Resour. Dev. Rev.* **2024**, *23*, 3–24. [\[CrossRef\]](#)
30. Wirges, A.; Neyer, A.-K. Towards a process-oriented understanding of HR analytics: Implementation and application. *Rev. Manag. Sci.* **2023**, *17*, 2415–2445. [\[CrossRef\]](#)
31. International Air Transport Association (IATA). *Future of Work in Aviation*; IATA: Singapore, 2018.
32. International Air Transport Association (IATA). *Workforce and Talent Survey: Aviation Human Capital Trends*; IATA: Singapore, 2023.
33. Kharoufah, H.; Murray, J.; Baxter, G.; Wild, G. A review of human factors causations in commercial air transport accidents and incidents: From 2000–2016. *Prog. Aerosp. Sci.* **2018**, *99*, 1–13. [\[CrossRef\]](#)
34. Becker, B.E.; Huselid, M.A. Strategic human resources management: Where do we go from here? *J. Manag.* **2006**, *32*, 898–925. [\[CrossRef\]](#)
35. Wright, P.M.; McMahan, G.C. Theoretical perspectives for strategic human resource management. *J. Manag.* **1992**, *18*, 295–320. [\[CrossRef\]](#)
36. Green, D. The best practices to excel at people analytics. *J. Organ. Eff. People Perform.* **2017**, *4*, 137–144. [\[CrossRef\]](#)
37. Bryman, A. *Social Research Methods*, 4th ed.; Oxford University Press: Oxford, UK, 2012.
38. Flick, U. *Métodos Qualitativos na Investigação Científica*; Monitor: Lisboa, Portugal, 2005.
39. Bardin, L. *Análise de Conteúdo*, 4th ed.; Edições 70: Lisboa, Portugal, 2011.
40. Braun, V.; Clarke, V. Using thematic analysis in psychology. *Qual. Res. Psychol.* **2006**, *3*, 77–101. [\[CrossRef\]](#)
41. Fereday, J.; Muir-Cochrane, E. Demonstrating rigor using thematic analysis. *Int. J. Qual. Methods* **2006**, *5*, 80–92. [\[CrossRef\]](#)
42. Ghiglione, R.; Matalon, B. *O Inquérito: Teoria e Prática*, 4th ed.; Editora Celta: Oeiras, Portugal, 2005.
43. Davenport, T.H. Analytics 3.0. *Harv. Bus. Rev.* **2013**, *91*, 64–72.
44. Srivastava, P.R.; Eachempati, P. Intelligent employee retention system for attrition rate analysis and churn prediction. *J. Glob. Inf. Manag.* **2021**, *29*, 1–29. [\[CrossRef\]](#)

45. Yahia, N.B.; Hlel, J.; Colomo-Palacios, R. From big data to deep data to support people analytics for employee attrition prediction. *IEEE Access* **2021**, *9*, 60447–60458. [[CrossRef](#)]
46. Shearer, C. The CRISP-DM model: The new blueprint for data mining. *J. Data Warehous.* **2000**, *5*, 13–22.
47. Westerman, G.; Bonnet, D.; McAfee, A. *Leading Digital: Turning Technology into Business Transformation*; Harvard Business Review Press: Cambridge, MA, USA, 2014.
48. Vial, G. Understanding digital transformation: A review and a research agenda. *J. Strateg. Inf. Syst.* **2019**, *28*, 118–144. [[CrossRef](#)]
49. Weiner, B.J. A theory of organizational readiness for change. *Implement. Sci.* **2009**, *4*, 67. [[CrossRef](#)] [[PubMed](#)]
50. European Parliament and Council of the European Union. *Regulation (EU) 2024/1689 Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act)*; European Union: Brussels, Belgium, 2024.
51. Ērgle, D.; Ludviga, I.; Kalviņa, A. Turning Data into Valuable Insights: The Case Study in Aviation Sector Company. *CBU Int. Conf. Proc.* **2017**, *5*, 294–299. [[CrossRef](#)]
52. Hazarika, I.; Albeshr, M.; Jumde, A. Role of HR metrics in enhancing firm performance of selected UAE airline companies. *Acad. Strateg. Manag. J.* **2019**, *18*.

Disclaimer/Publisher’s Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.