

ASSESSING DISCLOSURE QUALITY OF WORKFORCE TRANSFORMATION UNDER ESRS S1: AN IRO–PATM ANALYSIS OF THE AUTOMOTIVE INDUSTRY

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The transformation of the European automotive industry through electrification and digitalisation is reshaping employment structures and skill requirements. Under the Corporate Sustainability Reporting Directive (CSRD) and the ESRS S1 standard (“Own Workforce”), companies are required to disclose workforce-related impacts within standardised sustainability reporting. However, it remains unclear whether these requirements foster substantive transparency or primarily result in formal compliance. This study examines the quality of workforce transformation disclosures by linking materiality diagnosis of impacts, risks and opportunities (IRO) with management operationalisation across policies, actions, targets and metrics (PATM). Based on a qualitative content analysis of sustainability reports from ten major European automotive manufacturers and suppliers, the study analyses whether identified transformation risks are translated into coherent management structures. The results reveal a structural asymmetry: workforce transformation is predominantly framed as a risk issue, while management responses are mainly communicated through operational measures. Formally codified policies and consistent target and metric systems remain weak. Differences between staff reductions and upskilling/reskilling indicate field-specific disclosure logics. Overall, integration between IRO diagnosis and PATM operationalisation remains partial. The study contributes by systematically analysing disclosure architecture and distinguishing between formal compliance and structural management integration.

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1 Introduction

The European automotive industry is undergoing a profound structural transformation driven by electrification, digitalisation and intensified global competition, requiring economic, environmental and social adjustments.

As one of the most employment-intensive industrial sectors in the European Union, the automotive industry is particularly affected, as these developments impact not only corporate structures but also broader labour market dynamics. In particular, ongoing job reductions and shifting skill requirements indicate that this transformation has far-reaching implications for job security and working conditions beyond technological change.

Against this backdrop, regulatory transparency requirements are gaining importance. Through the Corporate Sustainability Reporting Directive (CSRD) and the European Sustainability Reporting Standards (ESRS), the European Union seeks to enhance the comparability, decision-usefulness and verifiability of sustainability information. The ESRS S1 (“Own Workforce”) social standard explicitly requires companies to disclose the impacts of their business activities on their own workforce. This places the social dimension of transformation, particularly employment risks, restructuring and training and reskilling initiatives, at the centre of external sustainability reporting.

The disclosure literature repeatedly suggests that regulatory requirements do not necessarily result in substantive transparency but may instead encourage symbolic or selective disclosure patterns (Dienes et al., 2016; Velte, 2023). In light of these developments, it remains unclear whether the first wave of CSRD-compliant reporting provides a robust basis for evaluating workforce-related transformation risks or primarily reflects formal compliance. In particular, systematic analyses integrating materiality diagnosis in terms of impacts, risks and opportunities (IRO) with operationalisation across policies, actions, targets and metrics have been lacking.

This study addresses this research gap by examining how companies in the European automotive and supplier industry report workforce-related transformation under ESRS S1. To this end, the analysis links materiality diagnosis (IRO) to a category-

based assessment of communicated management responses across policies, actions, targets and metrics (PATM). This approach enables a differentiated reconstruction of the internal disclosure architecture and allows for a systematic distinction between different levels of disclosure quality.

The results indicate a consistent disclosure pattern: the workforce is predominantly framed as a risk and compliance issue, whereas management responses are primarily communicated through operational programmes. In contrast, formally codified policies as well as systematic target-setting and key performance indicator (KPI) systems remain limited. Differences between workforce reduction and upskilling/reskilling emerge mainly in the degree of operational specificity rather than in the formal design. Additionally, qualitative differences become apparent in the linguistic framing of sensitive topics, suggesting strategic communication patterns that extend beyond purely formal transparency.

On this basis, the study makes several contributions to disclosure and sustainability research. First, it extends the literature on ESRS implementation by providing one of the first empirical analyses of social standard S1 in a transformation-intensive industry. Second, by combining the IRO and PATM perspectives, it develops an integrative analytical framework that systematically links materiality diagnosis and operationalisation, thereby rendering both dimensions analytically comparable. Third, the study complements the structural analysis of disclosure with a narrative perspective by examining how linguistic framing and communicative explicitness shape disclosure quality. Disclosure is thus conceptualised not merely as a question of scope, but as a multidimensional communication practice.

The article is structured as follows. Section 2 outlines the theoretical background and the current state of research. Section 3 describes the research design and methodological approach. Section 4 presents the empirical findings. Section 5 discusses the results and their implications. Section 6 concludes with a summary and an outlook.

2 Reporting Workforce Transformation: Conceptual Foundations

2.1 Workforce transformation in the automotive industry

The automotive industry is undergoing structural change that is less a form of incremental technological progress than a fundamental reorganisation of industrial value creation structures. Key drivers include the electrification of powertrains, regulatory decarbonisation targets, and the increasing software and digitalisation intensity of vehicles and production processes. Given the industry's substantial macroeconomic relevance accounting for approximately 7% of European gross domestic product and nearly 14 million direct or indirect jobs these developments generate significant cross-industry spillover effects (Cornet et al., 2023). Forecasts indicate that electric vehicles will account for nearly 60% of new registrations in Europe by 2030, thereby structurally displacing combustion engine technologies (International Energy Agency, 2025).

The lower technical complexity of electric drivetrains reduces labour-intensive manufacturing costs and shifts value creation from mechanical components towards battery, electronics, and software-based technologies. As a consequence, traditional stages of the supply chain lose relevance (Herrmann et al., 2020; Boquera-Rubio et al., 2025; Cornet et al., 2023). These structural transformations are accompanied by corresponding shifts in employment structures. In Germany, nearly every second job in the automotive industry depends directly on the combustion engine; by 2030, up to 215,000 employees could be affected. At the same time, knowledge- and technology-intensive functions are gaining importance (Falck et al., 2021; Herrmann et al., 2020).

At the company level, structural change manifests itself in strategic adjustments to human resource management (HRM). The declining demand for mechanical manufacturing and assembly skills is associated with reduced staffing requirements and restructuring in traditional occupational fields, while new competency demands emerge in software, electronics, and data-driven functions. Companies respond by reorganising their HR systems, recruiting externally, and relocating knowledge-intensive development and IT activities across global value chains.

At the same time, reskilling, upskilling, and internal mobility gain importance as central instruments of strategic HRM, enabling the targeted reconfiguration of skills profiles. In the context of transformation, a conceptual distinction must be drawn between upskilling and reskilling. Upskilling refers to the further development of existing competencies within related job profiles, whereas reskilling denotes the acquisition of new qualifications for altered or alternative functional areas (cf. Achillas & Iosifidou, 2024; Krzywdzinski & Jo, 2020). Both strategies are widely regarded in the literature as key instruments for managing technology-induced shifts in skill requirements.

Empirical studies and case analyses in the automotive industry confirm this combination of functional reallocation, targeted skills development, and selective staff reductions (Achillas & Iosifidou, 2024; Krzywdzinski & Jo, 2020; Niyaz et al., 2025). However, the effectiveness of these adjustments depends largely on employees themselves. As carriers of organisation-specific knowledge and learning capacity, they constitute a central prerequisite for organisational adaptability. Human resource policy therefore addresses not only efficiency considerations but also assumes a strategic management dimension.

In labour-intensive industries such as the automotive sector, this constellation generates a structural tension between productive and social risk dimensions. While employees enable transformation processes, staff reductions, reskilling requirements, and job insecurity simultaneously create social risks, reputational pressures, and heightened legitimization expectations from stakeholders. Workforce transformation thus extends beyond a question of operational efficiency and becomes an issue of organisational governance and legitimacy (Mukhuty et al., 2022).

This ambivalence leads to increased accountability towards external stakeholders. Companies are increasingly expected to render the social impacts of their transformation strategies transparent and to justify them vis-à-vis different stakeholder groups. The relevant stakeholders extend beyond capital market actors: employees and regionally affected communities are directly exposed to staff reductions, changing qualification requirements, and location decisions, and therefore have a legitimate claim to information. Reporting on staff reductions, qualification measures, and job security thus constitutes not merely documentation

but also an instrument of legitimation, trust-building, and the social embedding of transformation processes.

However, empirical studies indicate that CSR and reporting practices in restructuring contexts often serve primarily symbolic legitimation functions without ensuring comprehensive accountability (Mäkelä et al., 2010; Cornea et al., 2021). At the same time, the European regulatory framework institutionalises explicit participation and information rights for employee representatives through mandatory sustainability reporting under the CSRD/ESRS regime, thereby expanding the scope of stakeholders addressed beyond investor-oriented transparency requirements (Vitols et al., 2023).

2.2 Regulation and transparency under ESRS S1

The increasing social and employment-related risks associated with industrial transformation intensify information asymmetries between companies and their stakeholders. Employees, investors, and regionally affected communities in particular often possess only limited and selective information regarding staff reductions, qualification strategies, or long-term employment effects. Against this backdrop, regulation can be conceptualised as a governance instrument that institutionalises accountability through mandatory disclosure and renders organisational decisions transparent and verifiable to stakeholders.

From a disclosure and accountability perspective, transparency is not merely the provision of information but a mechanism that shapes organisational behaviour. Standardised reporting seeks to ensure comparability and decision-usefulness, thereby making organisational actions accessible to public scrutiny (Healy & Palepu, 2001; Roberts, 2009). Mandatory disclosure can thus be understood as an institutional instrument that generates expectation pressure and fosters organisational adaptation to prevailing social norms. Empirical evidence further indicates that mandatory sustainability reporting increases the visibility of social impacts and, under certain conditions, may contribute to changes in organisational practices (Christensen et al., 2021).

With the Corporate Sustainability Reporting Directive (CSRD) and the European Sustainability Reporting Standards (ESRS), this transparency logic is explicitly extended to social and employment-related dimensions. In particular, ESRS S1 (“Own Workforce”) establishes systematic reporting requirements concerning working conditions, qualifications, job security, and work-related risks and impacts. The regulatory framework thereby broadens the scope of addressees of sustainability reporting beyond capital market-oriented information interests and anchors explicit accountability obligations towards employees and their representatives. Sustainability reporting thus constitutes not only investor-oriented disclosure but also an instrument of stakeholder-oriented governance (Vitols et al., 2023).

However, this regulatory transparency logic presupposes that disclosed information reliably reflects organisational practices and induces substantive changes in organisational behaviour. Whether this assumed link between formal disclosure and operational practice holds empirically remains contested in organisational theory and provides the point of departure for the subsequent discussion of organisational responses to disclosure requirements.

2.3 Organisational responses to disclosure

The regulatory expectation that standardised disclosure requirements create substantive transparency and comparability presupposes a close alignment between reported information and actual organisational practices. However, neo-institutional organisational theory fundamentally questions this assumption. Empirical studies on the institutional embeddedness of organisations demonstrate that external requirements are often adopted through formal structures without corresponding implementation in operational routines. This pattern, referred to as decoupling, enables organisations to signal regulatory compliance and secure legitimacy while core processes remain largely unchanged (Meyer & Rowan, 1977; Bromley & Powell, 2012). Disclosure requirements may therefore foster symbolic compliance rather than substantive changes in organisational practices.

Applied to sustainability and workforce reporting, this perspective suggests that compliance with regulatory requirements does not necessarily coincide with a comprehensive and reliable representation of actual employment effects. Instead, reports may primarily serve to demonstrate conformity with regulation and thus

function as signals of legitimacy rather than as instruments of accountability. Empirical research in the context of restructuring and downsizing further indicates that CSR and accounting information fulfil distinct legitimising functions: on the one hand, they are employed rhetorically to justify corporate decisions (Mäkelä et al., 2010); on the other hand, they may strategically contribute to stabilising organisational legitimacy and mitigating negative performance effects among remaining employees (Cornea et al., 2023).

This loose coupling between formal disclosure and operational practice manifests itself at the level of communication. Disclosure is not merely the technical transmission of information but a selective and malleable process of representation in which content is chosen, framed, and evaluated.

Research on impression management conceptualises reporting as an instrument for shaping external perceptions and securing organisational legitimacy (Bolino et al., 2008). Studies on narrative and voluntary disclosure further demonstrate that companies use discretionary information to emphasise positive performance while downplaying or obscuring problematic developments (Merkl-Davies & Brennan, 2007). Such practices manifest in selective presentation strategies, including increased textual complexity, aggregation of sensitive key figures, or the omission of critical information (Courtis, 2004). Sustainability and CSR reports in particular often contain symbolic or façade-like elements that signal conformity without providing substantive accountability (Boiral, 2013; Cho et al., 2015). Employment-related issues are especially sensitive in this regard, as layoffs, site closures, or skill losses can trigger immediate social and political reactions.

This communicative discretion is particularly pronounced in employment-related disclosure. Social and work-related issues can often only be captured to a limited extent through standardised, quantitatively robust key performance indicators and therefore rely more heavily on qualitative or context-dependent measures. The assessment of working conditions, skills development, or job security consequently remains interpretative and narrative in character, which constrains comparability while expanding discretionary scope for presentation (Nwagwe et al., 2022). Research on sustainability reporting indicates that such conditions favour narrative accounts and foster symbolic or ceremonial reporting elements that are only loosely coupled to operational practices (Boiral, 2013; Cho et al., 2015; Michelon et al.,

2015). Workforce disclosure is therefore structurally more susceptible to selective or discretionary design.

In sum, the interplay of decoupling and strategic communication suggests that regulatory disclosure requirements may systematically diverge from substantive transparency and function as organisational instruments for managing institutional expectations. Reporting obligations therefore not only generate information flows but also create structural scope for selective and discretionary presentation. Against this backdrop, analytical approaches are required that assess not merely the formal presence of disclosures but also their substantive content, internal coherence, and communicative framing. The following section develops an integrated analytical framework for this purpose.

2.4 Analytical frame of reference: IRO-PATM as an integrated perspective

Given the limited informative value of purely formal disclosure requirements, an integrated analytical framework is required that systematically links regulatory requirements, organisational decision-making processes, and communicative presentation practices in order to assess the substance and quality of workforce disclosure. The structures of the double materiality analysis (DMA) embedded in the European Sustainability Reporting Standards (ESRS), operationalised through the categories of impacts, risks, and opportunities (IRO), together with the policy–action–target–metric (PATM) logic, constitute the conceptual core of this framework.

The DMA functions as a normative mechanism for selecting sustainability matters subject to reporting requirements. A topic is deemed material if it involves significant actual or potential impacts on people or the environment (impact materiality) or gives rise to financial risks or opportunities that may affect the company’s financial position (European Commission, 2023, ESRS 1, paras. 28–35, 44–53). Materiality is determined through the structured identification and assessment of IRO, including an evaluation of both severity and likelihood of occurrence (European Commission, 2023, ESRS 1, paras. 55–59).

For ESRS S1 (“Own Workforce”), this implies that reporting requirements do not derive directly from the standard itself but arise contingently from the upstream IRO analysis (European Commission, 2023, ESRS S1, para. 3). The scope of workforce disclosure must therefore be inferred from the documented materiality assessment. The DMA/IRO logic thus translates regulatory requirements into organisational assessment decisions and defines the thematic selection logic of reporting.

While the DMA/IRO determines which work-related topics are classified as material, the PATM logic structures their communicative operationalisation. ESRS 2 requires disclosures on policies, actions, targets, and metrics for each material sustainability topic (European Commission, 2023, ESRS 2, paras. 60–80). This minimum disclosure requirement establishes a systematic link between normative commitments, operational measures, and performance indicators, thereby connecting strategic intent with implementation and measurable outcomes. Disclosure must explicitly refer to previously identified material topics (European Commission, 2023, ESRS 2).

The MDR-based architecture of the ESRS is structurally compatible with internal management and control systems and may enhance the traceability between strategic commitments and reported outcomes. However, formal coherence does not ensure substantive integration. The linkage of policies, actions, targets, and metrics can be presented in a formally compliant manner while remaining internally fragmented—for instance through unspecified targets, weakly operationalised measures, or key figures lacking a discernible causal connection. In such cases, the disclosed management architecture remains structurally disaggregated, and the link between the reported governance structure and the depiction of operational implementation is only loosely coupled.

Another critical aspect concerns the substantive linkage to the identified IROs. The PATM disclosures may present general elements of human resource management without explicit reference to the work-related risks or opportunities classified as material. In such cases, the reporting fulfils the formal structural requirements; however, its content remains disconnected from the underlying materiality assessment and thereby loses thematic specificity.

Within the integrated analytical framework, the combination of DMA/IRO analysis and PATM assessment fulfils a dual evaluative function: the DMA/IRO determines the material relevance of work-related aspects, while the PATM enables an assessment of their implementation consistency. High-quality workforce disclosure is accordingly characterised by the consistent translation of identified material IROs into policies, their operationalisation through concrete measures, their substantiation by quantified targets, and their measurability through appropriate key performance indicators.

In this article, disclosure quality is conceptualised not merely as scope or formal completeness but as the degree of substantive specificity with regard to identified material IROs and their structural integration. It is assessed by the extent to which identified material IROs are consistently translated into policies, operationalised through concrete measures, substantiated by quantified targets, and rendered measurable through indicators with a discernible causal linkage.

Despite the increasing institutionalisation of sustainability reporting through standardised frameworks such as the European Sustainability Reporting Standards (European Commission, 2023), research has so far paid limited attention to the extent to which labour-related disclosures exhibit quality in terms of linkage to identified IROs and structural integration. In particular, it remains unclear whether social disclosures are systematically derived from identified material impacts, risks, and opportunities and coherently operationalised within the policy–action–target–metric logic, or whether they predominantly reflect general human resource management practices without a discernible connection to the documented materiality assessment.

Thus, it remains empirically unclear to what extent workforce disclosure not only fulfils formal compliance requirements but also achieves substantive transparency in terms of content specificity and structural integration. This research gap constitutes the point of departure for the present study.

Against this backdrop, the study examines the extent to which workforce transformation is not only formally disclosed within the ESRS framework but also presented in a substantively specific and structurally integrated manner. The analysis focuses on two analytically interrelated levels: the framing of workforce-related

issues within the IRO analysis and their operationalisation within the PATM structure.

This gives rise to the following research questions:

RQ1:

How is workforce transformation identified as material and articulated in substantive terms through the double materiality analysis (DMA) via impacts, risks, and opportunities (IRO)? This question addresses the problem definition level of reporting and examines whether transformation-related employment dynamics are identified as material impacts, risks or opportunities and whether they are conceptualised in a risk- or value-oriented manner.

RQ2:

How are work-related transformation areas operationalised within the policy–action–target–metric (PATM) structure, and what patterns of formalisation and quantification can be observed? This question focuses on the structural configuration of the managerial response, in particular the translation of transformation-related issues into policies, measures, targets, and key performance indicators, as well as their explicit linkage to identified IROs.

RQ3:

To what extent is workforce transformation presented in reporting as a materially specific and structurally integrated management context? This integrative question combines problem framing and operationalisation and examines whether a coherent, IRO-related linkage can be identified between the materiality analysis and the PATM structure.

3 Methodology

3.1 Research design

The study adopts a two-stage qualitative, document-based research design for the systematic examination of sustainability reporting in accordance with ESRS S1 (“Own Workforce”). The objective is not to evaluate regulatory compliance or normative adequacy, but to analyse structural configuration and the integration logic between materiality assessment and operationalisation within the PATM framework.

To this end, a comparative reconstruction of the structural architecture, degree of transparency, and content framing of the disclosed information is undertaken. Particular emphasis is placed on the treatment of transformation-related employment and qualification requirements and, in this context, on the linkage between materiality diagnosis (IRO) and its operational translation within the PATM structure.

3.2 Data basis and sample

The study concentrates on the European automotive and supplier industries. These industries are characterised by profound transformation dynamics, particularly electrification, digitalisation and the reconfiguration of global value chains (Cornet et al., 2023; International Energy Agency, 2025), which exert substantial effects on employment structures and qualification requirements. The industry-specific focus narrows the analytical scope to a comparatively homogeneous transformation context and thereby enhances the comparability of disclosure architectures and operationalisation logics.

The empirical basis comprises published sustainability and annual reports from companies within this sector that are classified as CSRD/ESRS-compliant (Sustainability Reporting Navigator, 2025). These formal disclosure documents constitute the primary unit of analysis, as they reflect the externally communicated representations of management approaches and operationalisation structures. The object of investigation is thus not internal organisational practices, but exclusively the reported disclosures.

The sample was determined through a multi-stage, theory-driven selection process. The point of departure was a reporting overview provided by the Sustainability Reporting Navigator (Sustainability Reporting Navigator, 2025), a research infrastructure established within the framework of the transregional Collaborative Research Centre TRR 266 “Accounting for Transparency”, funded by the German Research Foundation (DFG). Based on this overview, 554 CSRD-compliant reports across industries were identified as of the cut-off date of 20 June 2025. From this population, companies belonging to the European automotive manufacturing and supplier industries were extracted for further screening. To reduce structural heterogeneity, the sample was restricted to large, listed and internationally operating

companies with more than 50,000 employees. This restriction is grounded in empirical evidence indicating that company size, governance structures and available organisational resources exert a substantial influence on the structure and degree of differentiation of non-financial reporting (Radu et al., 2023; Kosi et al., 2024; Leal Filho et al., 2025).

The company sample comprises ten large European automotive manufacturers and suppliers subject to CSRD reporting requirements. An overview of the sample characteristics is presented in Table 1.

Table 1: Sample of Automotive Manufacturers and Suppliers Included in the ESRS S1 Disclosure Analysis (Reporting Year 2024)

Company	Industry	Revenue (€ m)	Employees	HQ Country	Report Type	ESRS S1 Section (pp.)
BMW	Automotive manufacturer	142,380	158,441	Germany	Annual Report	163–174
Continental	Automotive supplier / Tires	39,719	183,358	Germany	Annual Report	170–188
Forvia	Automotive supplier	26,974	150,000	France	Universal Registration Document	121–143
Mercedes-Benz	Automotive manufacturer	145,600	175,264	Germany	Annual Report	196–212
Michelin	Automotive supplier / Tires	27,200	129,832	France	Universal Registration Document	262–271
Renault	Automotive manufacturer	56,200	98,636	France	Universal Registration Document	181–203
Schaeffler	Automotive & industrial supplier	18,188	115,937	Germany	Annual Report	88–99
Stellantis	Automotive manufacturer	156,878	248,883	Netherlands	Sustainability Statement	64–84
Valco	Automotive supplier	21,492	95,284	France	Universal Registration Document	260–281
Volkswagen	Automotive manufacturer	324,700	614,082	Germany	Annual Report	362–391

Note. Revenue figures are reported in EUR million for fiscal year 2024. Employee data reflect total headcount as disclosed in the respective corporate reports. The ESRS S1 section refers to the page range analyzed for disclosures on “Own Workforce.” The complete company-level dataset, coding framework, and detailed ESRS S1 disclosure mappings are provided in the Online Supplementary Material (Appendices S1–S3).

This number of cases enables an in-depth qualitative document analysis while allowing for structured cross-case comparison. The analysis focuses on the most recent reporting cycle available at the time of data collection (reporting year 2024).

3.3 Analytical approach

The content analysis is conducted in two stages, document-based and applies a qualitative structuring approach, supported by a standardised extraction and coding scheme. In a first step, it is reconstructed whether employment-related issues are classified as material and on which justificatory grounds this classification is based. Subsequently, the reported governance and operationalisation approaches implemented to address these issues are systematically examined.

3.3.1 Step 1: DMA/IRO analysis

The first step analyses whether and in which form companies classify transformation-related impacts on their own workforce as material within the framework of the double materiality assessment (DMA).

The objective is to reconstruct the problem diagnosis documented in the reports, i.e. to identify which labour market- and qualification-related impacts, risks and opportunities are recognised, prioritised and communicated as material in the context of ESRS S1. In addition, the underlying content framing (e.g. risk-oriented, compliance-oriented or value-creation-oriented) in which the identified IROs are embedded is systematically captured.

Step 1 addresses the problem-definition and assessment level (“Why is the issue material?”) and establishes the analytical foundation for the subsequent examination of the reported response structures.

To this end, company-specific IRO analyses are conducted on the basis of a standardised questionnaire (F1–F11), which operationalises the core disclosure requirements of ESRS S1. In particular, the following dimensions are addressed:

- materiality classification of labour market-related topics,
- addressed sub-topics,

- identified impacts, risks and opportunities,
- scope and affected stakeholder groups,
- methodological and organisational anchoring of the analysis.

For each question, a three-level evidence rating (explicit, implicit, not mentioned) is assigned. In addition, a factual paraphrase, a verbatim quotation and a precise page or section reference are documented. The evaluation is strictly confined to documented statements; interpretative extensions or normative assessments are deliberately excluded. The results are recorded in a standardised, structured extraction table and systematically reviewed for completeness and consistency by means of a predefined checklist.

Building on the reconstructed materiality assessment and problem diagnosis, the second step examines how the issues classified as material are addressed within the reporting architecture. To this end, the disclosed policies, actions, targets and metrics are systematically captured in accordance with the PATM model and analysed with regard to their degree of specificity and their structural interdependencies. In addition, the analysis assesses whether and in which form PATM elements explicitly refer to previously identified impacts, risks or opportunities in order to determine the degree of explicit IRO linkage between materiality diagnosis (DMA/IRO) and operationalisation (PATM).

3.3.2 Step 2: PATM- analysis

The analytical focus is directed at the core components of a management approach structured in accordance with the PATM model:

- Policies (normative guidelines and regulations),
- Actions (concrete programmes of measures),
- Targets (operationalised target values),
- Metrics (indicator-based performance and impact indicators).

The PATM analysis concentrates on two central dimensions of workforce transformation that appear particularly salient in the context of technological and organisational upheaval within the European automotive industry: workforce

reductions and upskilling and reskilling initiatives. Both dimensions are intrinsically linked to the transformational capacity of companies, yet differ substantially with regard to their strategic embedding, communicative sensitivity and anticipated disclosure practices. Workforce reductions are typically associated with heightened reputational sensitivity and potentially conflictual stakeholder effects, particularly in relation to employee representatives, trade unions and political actors.

Substantive reporting in this domain extends beyond the mere disclosure of aggregate employee figures and encompasses comprehensible information on underlying governance principles, decision-making and process logics, social mitigation measures and, where applicable, defined target horizons and corresponding metrics. These characteristics render workforce reductions particularly suitable for identifying the limits and inherent tensions of disclosure depth under ESRS S1, as the differentiation between symbolic reporting and substantive transparency proves especially demanding in this field.

For each of the two workforce transformation domains, relevant text passages, levels of evidence, paraphrases and precise references are systematically extracted. The analysis thereby reconstructs the reported management and action logic underlying these domains. Both topics are treated as distinct analytical blocks and subsequently subjected to a comparative examination in order to identify field-specific patterns of structural integration and disclosure depth.

3.4 Coding and operationalisation

Within the framework of a qualitative content analysis with quantitative evaluation, deductive assessment and consensus coding, a supplementary analytical coding stage was implemented in addition to the structured extraction of PATM components in order to systematically capture the degree of concretisation and specification of the reported workforce measures.

Methodologically, this approach is grounded in rule-based qualitative content analysis in accordance with Schreier (2012), which provides for the deductive application of predefined categories and explicit decision rules.

The coded characteristics are subsequently subjected to a quantitative evaluation in order to render patterns of formalisation and structural integration systematically comparable across cases.

The analytical procedure was conducted in two stages. In the first stage, the identified text passages were qualitatively coded and classified with regard to their transformation relevance. Statements exhibiting a clear reference to transformation-specific workforce aspects were coded as concrete, whereas general or purely descriptive statements lacking explicit transformation relevance were coded as non-concrete. This deductive coding logic was applied consistently across all categories of the PATM model. In the second stage, the coded passages were quantitatively assessed using the SRQ methodology proposed by Elaigwu et al. (2024). The applied scale ranges from 0 to 3: a value of 3 denotes report components containing both qualitative and quantitative information; 2 indicates disclosures including quantitative or monetary details; 1 captures general or exclusively qualitative statements; and 0 reflects the complete absence of relevant information.

The aggregated score is calculated by summing the scores assigned across all PATM categories. This aggregation serves exclusively the descriptive structuring and comparative classification of disclosure patterns. The underlying scale is ordinal in nature; accordingly, aggregated values are not interpreted as interval-scaled metrics and are not employed to assess the performance of individual companies. Rather, the SRQ functions as an instrument for the structural aggregation of the ordinally coded PATM dimensions and enables a comparative representation of relative disclosure patterns within the sample.

To ensure intersubjective traceability, coding was conducted using a parallel multiple-coding procedure grounded in the principles of multi-rater content analysis (Krippendorff, 2019). Three independent coders evaluated the relevant text passages on the basis of an explicit coding guide. Deviations were addressed within a structured consensus procedure involving additional peers and resolved through mutual agreement. A formal statistical reliability coefficient was not calculated, as the primary objective was the harmonisation of interpretative coding decisions through a structured consensus procedure.

To further validate the coding results, an AI-supported comparative assessment was conducted. Automatically generated text analyses were systematically compared with the manually developed codes in order to identify potential omissions or inconsistencies. Any discrepancies identified were subsequently reviewed manually and, where necessary, adjusted. The AI did not function as an independent evaluative authority but rather as a technical support instrument for the systematic review of the documents.

The coded content from both analytical stages is subsequently integrated into a unified evaluation framework and subjected to a comparative analysis. To this end, the extracted information is systematically recorded in a predefined comparison matrix (company \times analysis categories). This matrix ensures a consistent comparison of the documented evidence at both the individual case level and across categories, thereby enabling a structured cross-case analysis of framing patterns, operationalisation logics and structural integration. The matrix is populated exclusively on the basis of the coded text passages; external data sources, supplementary scores or external rankings are not incorporated.

The evaluation follows a structured and comparative logic. By systematically contrasting the codes across cases, recurring patterns, divergences and characteristic features of reporting are identified in order to typologically characterise disclosure practices and communicated operationalisation approaches. The objective is neither to assess performance nor to establish rankings of individual companies. This approach enables a transparent and replicable analysis of reported disclosure and operationalisation logics, while refraining from deriving conclusions regarding the actual performance or effectiveness of the underlying measures.

3.5 Quality assurance and limitations

To ensure transparency and traceability, all coding decisions are documented in accordance with predefined rules and substantiated by standardised extraction tables and complete evidence documentation. The coding guidelines, evaluation logic and central extraction tables are provided in the Appendix S2.

The applied 0–3 scale is ordinal in nature. Aggregated values are interpreted exclusively in a descriptive sense and serve to facilitate a structured comparison of relative disclosure patterns; they are not conceived as metric quality measures or standardised performance indices.

Given the small and industry-specific sample, dimension-specific aggregate indicators within the individual transformation fields are not calculated.

Aggregated mean values are employed exclusively for cross-field comparisons and serve to classify structural patterns, but not to assess the performance of individual companies.

Accordingly, the generalisation of the findings to other industries or institutional contexts is only possible to a limited extent. It should further be emphasised that the analysis is confined exclusively to disclosed report content. No conclusions can be drawn regarding the actual design, implementation or effectiveness of internal management and control practices. Accordingly, the findings pertain to reported structures and communicated management logics rather than to observable organisational practices.

Detailed company-level data, coding criteria, and ESRS S1 disclosure mappings are provided in the Online Supplementary Material (Appendices S1–S3).

4 Empirical results

4.1 Overview of the sample and data basis

The empirical analysis comprises ten sustainability and annual reports of large, listed companies within the European automotive and supplier industry. Detailed information on the sample selection, data basis and reporting cycles is provided in Section 3; an overview of the examined companies is presented in Appendix S1.

4.2 Results Step 1: DMA/IRO – Materiality and problem diagnosis

The first stage of the analysis examines how workforce-related issues are identified and substantively framed within the context of the double materiality assessment (DMA) (see Section 3.3.1). The following section presents three key findings: (1) materiality recognition, (2) risk-oriented framing, and (3) thematic coverage.

The comparative results are presented in Appendix S3 and discussed below with reference to the central findings. As evidenced by Table C1, all examined companies classify workforce-related issues as a material sustainability matter. Materiality is predominantly communicated explicitly, for instance through dedicated ESRS S1 sections or clear labelling within materiality overviews. Differences arise less in formal recognition than in the substantive delineation of the underlying impacts, risks and opportunities.

Individual companies explicitly articulate transformation-related risks. For instance, Schaeffler refers to socially responsible workforce reductions in the context of transformation (p. 95), while Stellantis identifies shifts in skill profiles and potential job losses resulting from technological transformation as material risks (p. 22).

These examples illustrate the variance in both the scope and the depth of risk specification.

Taken together, the justification of materiality is clearly dominated by risk- and impact-oriented considerations. The identified IROs primarily relate to work-related matters, including occupational health and safety, human rights risks, labour disputes, as well as employment- and qualification-related transformation risks.

This emphasis is reflected both quantitatively in the number of reported impacts and risks and qualitatively in their substantive framing (see Appendix S3). By contrast, explicitly disclosed opportunities remain comparatively rare and are frequently articulated in general or non-specific terms.

Thematic coverage within ESRS S1 is broad. Almost all companies address multiple sub-dimensions—such as working conditions, occupational health and safety, qualifications, equal treatment and social dialogue—and formally delineate the scope of their own workforce. Differences arise primarily with regard to the level of detail and the systematic inclusion of distinct employee groups.

From a methodological perspective, the DMA is implemented in a formally consistent manner across cases. All companies explicitly refer to double materiality and apply a structured IRO logic. Variations become apparent in the depth of

methodological design and in the extent to which governance and risk management structures are integrated.

In summary, a consistent pattern becomes apparent: the workforce is formally established as a material topic and methodologically embedded, yet predominantly conceptualised through a risk-oriented lens. Strategic or value-creating interpretations of human capital, by contrast, remain secondary. The problem diagnosis thus follows a largely defensive and compliance-oriented logic.

Whether this framing is translated into coherent governance and action structures cannot be determined at this stage. The following section therefore examines how identified IROs are operationalised within the PATM framework.

4.3 Results of step 2: PATM – management and response level

4.3.1 In-depth analysis: Staff reductions

The evaluation reveals a generally weakly formalised disclosure pattern within the transformation field of workforce reductions. Table 2 summarises the standardised assessment across the four PATM dimensions. It provides a comparative overview of disclosure patterns across all sampled companies.

Table 2: PATM analysis results for staff reductions

Company	Policy (0-3)	Action (0-3)	Target (0-3)	Metric (0-3)	PATM total	Disclosure excerpt/page
Forvia	0	1	3	3	7	p. 129, 137, 140
Valeo	0	3	0	2	5	p. 260, 263, 276, 278, 279
Stellantis	0	1	0	2	3	p. 22, 69
Mercedes	0	3	0	0	3	p. 200, 201
Michelin	0	0	0	2	2	p. 269, 271
VW	0	1	0	0	1	p. 364, 367, 378
Schaeffler	0	1	0	0	1	p. 89, 94, 97
Continental	0	1	0	0	1	p. 171, 177, 184
Renault	0	0	0	0	0	p. 199
BMW	0	0	0	0	0	p. 163, 166, 167

Note. Standardised PATM scoring (0–3) derived from the author’s analysis of the companies’ 2024 sustainability reports.

Policies.

None of the examined companies disclose explicit, company-wide policies governing workforce reductions; accordingly, a policy score of 0 was assigned consistently across cases (see Table 2). Although isolated references to strategic workforce planning or transformation programmes are provided, these do not satisfy the criteria of formalised regulations with clearly defined procedures or binding minimum standards.

BMW refers to “long-term workforce planning” without specifying binding guidelines (p. 163), while Mercedes-Benz formulates general transformation objectives within its “Re-Shape” programme but does not outline standardised regulations for workforce reductions (p. 200). Overall, the reporting remains at a programmatic and descriptive level; a formalised policy architecture is not discernible.

Actions.

Disclosure in the area of workforce reductions primarily occurs at the level of operational measures. Seven of the ten companies report restructuring or workforce reduction initiatives, although the degree of specification varies considerably. In some cases, specific arrangements are referenced, such as temporary employment protection commitments (Mercedes-Benz, p. 201), whereas other companies address restructuring only indirectly within broader transformation programmes (e.g. Michelin, p. 269). Compared to the complete absence of a policy dimension, the action dimension is more prominently represented, yet remains structurally inconsistent.

Targets.

The target dimension remains clearly underdeveloped within the sample. Explicit and measurable targets are disclosed only in isolated cases. Forvia specifies concrete restructuring targets within its “EU Forward” plan and complements these with quantitative information, such as the number of employees affected and the planned duration of the programme (p. 129).

In the remaining cases, specific target values or quantified target systems are absent, such that no coherent target architecture can be identified.

Metrics.

Only four companies disclose quantitative indicators relating to workforce reductions. In some instances, differentiated information on employment trends or regional adjustments is provided (e.g. Forvia, pp. 137–140). In the majority of cases, however, such metrics are absent, thereby limiting comparability. Explicit linkages to previously identified transformation-related IROs remain rare.

Interim conclusion regarding workforce reductions

In the transformation field of workforce reductions, the PATM profile thus appears structurally unbalanced: while operational measures are reported with relative frequency, formal policies are entirely absent; targets and metrics remain selective and inconsistent. Disclosure is predominantly reactive and operational, with no discernible structural integration along the PATM logic.

4.3.2 In-depth analysis: Upskilling and reskilling

Disclosures relating to upskilling and reskilling measures exhibit a PATM profile that differs markedly from that observed in the field of workforce reductions (see Table 3).

The transformation field of upskilling and reskilling exhibits a heterogeneous PATM profile. While formal policies are documented only in isolated cases, measures and targets are explicitly articulated in several instances and, in part, complemented by quantitative indicators. The aggregated values vary considerably across companies and indicate differing degrees of structural integration and specification within the disclosed information.

Table 3: PATM analysis results for upskilling and reskilling

Company	Policy (0-3)	Action (0-3)	Target (0-3)	Metric (0-3)	PATM total	Disclosure excerpt/page
Stellantis	0	3	3	3	9	p. 64, 83, 84
VW	0	3	3	0	6	p. 375
Valeo	0	2	2	2	6	p. 264, 267, 275, 277, 280
BMW	1	1	2	2	6	p. 164, 169
Mercedes	1	1	3	0	5	p. 198, 201, 202
Michelin	1	3	0	0	4	pp. 267–270
Renault	0	1	2	0	3	p. 186, 190, 192, 194
Schaeffler	0	1	0	0	1	p. 89, 94, 96
Continental	0	1	0	0	1	p. 171, 176
Forvia	0	1	0	0	1	p. 133, 134

Note. Standardised PATM scoring (0–3) derived from the author’s analysis of the companies’ 2024 sustainability reports.

Policies.

The policy dimension remains comparatively weak within the transformation field of upskilling and reskilling. Seven of the ten companies do not disclose explicit, standalone policy frameworks; only three embed corresponding content within overarching strategies or guidelines. In some instances, relevant aspects are situated within general occupational health and safety objectives (e.g. Michelin, p. 267) or incorporated into the broader human resources strategy (e.g. Mercedes-Benz, pp. 198–200), without clearly defined and formalised policies being articulated.

Accordingly, an independent and systematically structured policy architecture is discernible only in isolated cases.

Actions.

The action dimension is consistently pronounced within the transformation field of upskilling and reskilling. All examined companies disclose qualification or training measures, although the majority report initiatives described in general terms (score 1). Only a limited number of companies document more structured programmes characterised by clearly defined measures, specified target groups or quantitative information. The observed differences relate primarily to the level of specification: while some companies address qualification measures in a comparatively generic manner (e.g. Renault, p. 192), others report structured programmes with more concrete design features (e.g. Stellantis, p. 84). In sum, this indicates a broadly

developed action dimension that remains heterogeneous in terms of specificity and degree of formalisation.

Targets.

The target dimension exhibits a differentiated profile within the transformation field of upskilling and reskilling. Six of the ten companies disclose explicit targets for qualification and training measures, whereas four do not report measurable target specifications. Three companies articulate clearly quantified and time-bound target values (score 3). This distribution results in a bifurcated pattern, distinguishing between concretely developed target architectures and purely measure-oriented representations lacking explicit target definitions.

Metrics.

In contrast, the metric dimension remains comparatively underdeveloped. Seven of the ten companies do not disclose explicit quantitative indicators relating to qualification or further training measures. Three companies provide corresponding metrics, with one case exhibiting a differentiated, multidimensional presentation of indicators including temporal references (e.g. Stellantis, p. 84). Overall, the disclosure of metrics is concentrated among a limited number of companies and does not reflect a broadly institutionalised or systematic approach.

Interim conclusion regarding upskilling and reskilling

Across cases, upskilling and reskilling exhibit a heterogeneous PATM profile that is, in certain cases, more structured than that observed in the transformation field of workforce reductions. While measures are consistently disclosed and targets are specified in several instances, formal policies and a coherent system of indicators remain limited. Disclosure is thus predominantly programme- and activity-oriented rather than rule-based or data-integrated.

Compared to workforce reductions, stronger linkages between problem diagnosis and target systems can occasionally be observed; however, consistent structural integration across all PATM dimensions is not achieved.

4.3.3 Asymmetric integration patterns of workforce transformation

For cross-field consolidation, an additive sum score (SRQ) is calculated as the aggregate of the four PATM dimensions (range: 0–12); standardisation (SRQ%) is applied exclusively for descriptive comparability.

Table 4: Aggregated PATM characteristics and additive sum score (SRQ) by transformation field

Transformation field	Policy Ø	Action Ø	Target Ø	Metric Ø	SRQ Ø (0–12)	SRQ %
Staff reduction	0	1.1	0.3	0.9	2.3	19
Upskilling & reskilling	0.3	1.7	1.5	0.7	4.2	35

Note. Values represent the author’s own calculations based on the PATM scoring results. SRQ = additive sum of the four PATM dimensions (range: 0–12). SRQ% = SRQ/12 and reported for descriptive comparability.

The aggregated comparison shows clearly different disclosure profiles. In the transformation field of staff reductions, the average values are low in all dimensions; policies and target and key figure elements in particular are hardly pronounced, while measures are only documented to a limited extent. Upskilling and reskilling, on the other hand, achieve higher values in the dimensions of actions and targets, which is reflected in the significantly higher SRQ. However, the policy dimension remains weak here as well, and quantitative key figures are only available in isolated cases.

The divergence between the two transformation fields stems primarily from differences in the scope and specificity of disclosed measures and targets, rather than from consistent formal anchoring across all PATM dimensions. These differences suggest that positively framed, development-oriented transformation narratives are more readily translated into structured target architectures than restructuring-related topics characterised by heightened reputational sensitivity. These findings constitute the empirical foundation for the subsequent discussion of disclosure and governance logics in the context of workforce transformation.

These results are based on the standardised coding framework and consensus-based validation procedure described in Section 3.4.

5 Discussion

5.1 Disclosure patterns and response logics of workforce transformation

The results indicate a consistent structure of workforce-related reporting following a sequential logic of problem diagnosis, management response and field-specific concretisation. With regard to RQ1, the findings show that the workforce is consistently classified as material within the sample, yet predominantly framed in terms of risks and impacts. Employment security, transformation-related risks and work-related exposures dominate the materiality rationale, whereas value-creation or innovation-oriented perspectives remain marginal. The workforce thus emerges primarily as a risk- and compliance-oriented domain.

This problem framing extends to the PATM level. With regard to RQ2, management responses are predominantly communicated through operational measures and programmes, whereas formally codified policies, coherent target architectures and systematic key performance indicator structures are reported less frequently. Transparency thus derives more from disclosed activities than from structurally embedded and quantitatively substantiated governance architectures. Accordingly, disclosure appears more action-oriented than structure-oriented.

Within this overarching logic, field-specific variations become apparent. Workforce reductions are characterised by a low degree of formalisation and a cautious articulation of targets and key performance indicators, and are predominantly addressed in a situational manner. By contrast, upskilling and reskilling initiatives are more programmatically structured and, in some cases, underpinned by quantified targets. These differences stem less from distinct institutional arrangements than from gradual variations in the scope and specificity of disclosed measures and target architectures.

Beyond these structural differences, qualitative variations also become evident in the linguistic framing. While some companies explicitly refer to workforce reductions and identify concrete, rule-based measures or agreements, others address comparable issues only indirectly within broadly formulated transformation or HR programmes.

The spectrum ranges from clearly specified measures to abstract or positively connoted formulations that linguistically embed or relativise restructuring. These differences pertain less to the existence of measures than to their communicative explicitness. Disclosure thus proves to be differentiated not only structurally but also rhetorically.

With regard to RQ3, the findings indicate only partial integration between IRO diagnosis and PATM operationalisation. Workforce transformation is formally acknowledged as material, yet predominantly presented in an activity-oriented manner and only to a limited extent as a coherently anchored and quantitatively specified governance context.

5.2 Theoretical classification and contribution to the literature

The findings regarding the risk-oriented problem framing of workforce transformation and the predominantly measure-based operationalisation can be situated within central strands of sustainability and disclosure research, which repeatedly highlight a discrepancy between formal disclosure and institutionalised control architectures.

Companies tend to render operational activities visible, whereas formally codified regulations, coherent target architectures and systematically reported key performance indicator structures remain less developed. Transparency thus emerges primarily at the programme level rather than in the form of structurally embedded governance arrangements. Accordingly, workforce transformation appears less as an institutionally integrated control domain than as an operationally addressed field of action. This suggests a limited degree of linkage between materiality diagnosis and the described operational implementation.

This observation aligns with theoretical approaches that differentiate between symbolic and substantive disclosure, according to which reporting does not merely reflect organisational practice but also fulfils legitimising functions. Formal compliance with regulatory requirements does not necessarily coincide with consistent or comparable transparency regarding the underlying management instruments.

The present findings support this perspective: despite ESRS compliance and external auditing, considerable variation persists in the specification of policies, target architectures and quantitative indicators.

Beyond structural differences, qualitative variations are also evident in the narrative framing of disclosure. Restructuring measures, employment adjustments or training initiatives are presented in heterogeneous ways—ranging from explicit references to specific regulations to indirect, abstract or positively connoted formulations.

These findings can be interpreted in light of impression management and narrative disclosure approaches, according to which organisations shape perceptions and legitimacy not only through the scope of information provided but also through its rhetorical construction (Merkl-Davies & Brennan, 2011). Reputation-sensitive issues tend to be relativised or contextualised, whereas future- or performance-oriented initiatives are emphasised more prominently (Higgins & Walker, 2012; Cho et al., 2012).

Disclosure thus appears not merely as a reflection of organisational control, but also as an instrument of selective visibility and narrative framing. Against this background, the present study contributes to the disclosure literature in a multidimensional manner. First, the integration of IRO and PATM perspectives enables a comprehensive examination of problem definition and operationalisation across the entire reporting chain. Second, the dimension-specific differentiation between policies, actions, targets and metrics facilitates a reconstruction of the internal disclosure architecture that extends beyond aggregated transparency indicators. Third, the inclusion of linguistic framing introduces a narrative layer to the structural analysis. Disclosure is therefore conceptualised not only in terms of “whether” or “how much,” but also of “how.”

Overall, the study contributes to a more differentiated understanding of workforce-related sustainability reporting by systematically integrating structural, operational and rhetorical dimensions of disclosure and empirically elucidating their interplay within the context of ESRS S1 implementation.

5.3 Contextual and institutional explanatory approaches

The observed disclosure patterns can be interpreted in light of several contextual and institutional factors. First, workforce reductions in particular are associated with labour law, reputational and socio-political sensitivities that incentivise cautious or indirect reporting practices. Second, training and skills development measures are more readily framed as positive initiatives; however, their effects are inherently more difficult to measure in a standardised manner, which may account for the limited use of quantitative indicators. Third, the structure of the ESRS requirements themselves may generate a framing effect by addressing workforce aspects primarily in terms of impacts and risks.

A risk-centred problem definition tends to privilege compliance-oriented communication over strategic, value-creation-oriented narratives. Taken together, these factors suggest that companies are inclined to present workforce transformation as an operational field of action rather than as a formally institutionalised management object. The resulting disclosure is thus more programme-based than rule-based.

5.4 Regulatory and practical implications

From a regulatory perspective, the findings underscore the continuing scope for interpretation and design in the implementation of the ESRS requirements. Although the standards mandate disclosures on policies, measures, targets and key figures, empirical evidence reveals considerable heterogeneity in their concretisation and degree of formalisation. This heterogeneity hampers comparability across companies and constrains the decision-usefulness of the reports.

For companies, this implies less an expansion of control requirements than an opportunity for clearer and more consistent communication of existing management approaches. Explicit disclosure of policies, target architectures and quantitative indicators, combined with a systematic structuring of workforce-related information along transparent categories such as the PATM logic could enhance the coherence between problem diagnosis, measures and reported outcomes, thereby strengthening transparency and comparability for stakeholders.

5.5 Methodological limitations

The results must be interpreted in light of several methodological limitations. The analysis is based exclusively on published disclosures and therefore does not permit conclusions regarding the actual design, implementation or effectiveness of internal control processes. The study examines the external representation of management approaches rather than their practical application or organisational embedding.

Furthermore, the sample is limited to ten companies and focuses on a specific industry context. Transferability to other industries or company sizes is therefore constrained. Despite the application of systematic coding rules, qualitative content analysis remains inherently interpretative. Multiple coding and consensus procedures enhance intersubjective traceability, yet cannot entirely eliminate subjective elements of evaluation.

The applied 0–3 scale is ordinal in nature; aggregated parameters are interpreted exclusively for descriptive purposes and serve to structure the comparison of disclosure patterns rather than to construct a normative quality index.

Future research may address these limitations through larger, cross-industry samples, longitudinal research designs and the integration of complementary qualitative methods such as interviews or internal document analyses in order to examine more closely the relationship between disclosure architecture and organisational practice. Accordingly, the study does not aim at statistical generalisation in the sense of representative inference, but at analytical generalisation. The findings contribute to the refinement of conceptual relationships between materiality diagnosis, operationalisation and disclosure architecture, which may be transferable to comparable regulatory or industry contexts, while empirical extrapolation beyond the examined cases remains limited.

The supplementary use of AI-supported analytical tools also requires methodological contextualisation. In the present study, AI-based procedures functioned exclusively as validation and plausibility instruments within a human-in-the-loop approach. While algorithmic methods enhance scalability and efficiency, the context-sensitive interpretation of complex disclosures remains a theory-driven

task. Future research should therefore further reflect on the balance between automation, transparency and interpretative validity.

6 Conclusion

This study examines the disclosure of workforce-related transformation processes within the framework of ESRS S1 through the integrated analysis of IRO diagnosis and PATM operationalisation. The findings indicate that workforce transformation is consistently recognised as material, yet predominantly framed in risk-oriented terms and communicated primarily through operational measures. By contrast, a coherently structured, quantitatively specified and systematically integrated governance architecture remains limited in its visibility.

The study thus highlights a central tension in the early implementation of ESRS: a discernible gap persists between the transparency envisaged by regulators and the actual structural integration of workforce-related transformation processes. Disclosure frequently appears activity-oriented and programmatic, rather than as a consistently IRO-linked management architecture comprising explicit policies, target systems and reliable key performance indicators.

Field-specific variations further illustrate this dynamic. While upskilling and reskilling measures are in some cases quantified and operationalised in a target-oriented manner, workforce reductions in particular remain weakly formalised as a sensitive transformation domain and are reported only selectively. This suggests that disclosure architectures are shaped not solely by regulatory requirements, but also by communicative sensitivities, institutional expectations and strategic framing considerations.

Conceptually, the study advances the understanding of disclosure beyond a binary conception of regulatory compliance, framing it instead as a multidimensional configuration encompassing problem definition, governance architecture and narrative design. The integration of IRO and PATM perspectives provides an analytical instrument that enables systematic comparison of structural integration, material specificity and communicative configuration.

For the continued development of ESRS reporting, the findings imply that transparency cannot be achieved through formal standardisation alone, but requires the coherent linkage of materiality diagnosis and operationalised control logic. Whether increasing implementation maturity will result in a deeper structural integration of workforce transformation constitutes a central avenue for future research.

Declaration

We hereby confirm that this section is our original work. It has not been published previously, nor has it been submitted for publication elsewhere. All sources and references have been properly acknowledged and cited in accordance with academic standards.

AI-assisted tools (ChatGPT, OpenAI) were used solely for language refinement and stylistic improvement. All scientific content, analysis, and conclusions are the author's own.

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