

Diversity Analytics And Employee Engagement: Analysis Role Of Financial Status As A Moderator In Karachi's Corporate Sector

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Abstract

This research explores the impact of Diversity Analytics Index (DAI) on Employee Engagement Scores (EES), with Financial Status (FS) as a moderating variable, within Karachi's corporate environment. With the increasing reliance on data-driven HR strategies, the study investigates whether analytical tracking of diversity correlates with improved employee engagement and whether financial stability enhances or weakens this relationship. Using a structured questionnaire distributed to 130 corporate employees across Karachi, data were analyzed through Partial Least Squares Structural Equation Modeling (PLS-SEM) using Smart PLS 4. Results revealed a significant and positive relationship between DAI and EES ($\beta = 0.498, p < 0.001$), suggesting that diversity-focused analytics can enhance employee engagement. However, Financial Status showed a weaker, non-significant effect on EES ($\beta = 0.256, p = 0.089$) and did not significantly moderate the DAI–EES relationship ($\beta = 0.015, p = 0.768$). These findings emphasize that while diversity tracking improves engagement, financial well-being may not significantly change this relationship in isolation. The study calls for integrated HR strategies that align diversity analytics with economic support frameworks.

Keywords: Diversity Analytics, Employee Engagement, Financial Status, HR Analytics, Moderation, PLS-SEM, Karachi Corporate Sector.

Introduction

In the digital transformation era, data analytics has reshaped the foundations of organizational decision-making, especially within Human Resource Management (HRM). Today, analytics are becoming a popular tool that allows modern companies to monitor their performance but also promote inclusive, engaging, and productive work environments. Diversity Analytics is a calculated method of demographics, symbol, and equity tracking of the workforce to refine the engagement and retention, as one of the new areas of this shift.

Member Engagement leaves an essential condition of organizational success, displeasing efficiency, income, and employment satisfaction. Since HR pieces are endowed with analytics dashboard, analytical tools and presence metrics, questions emerge on the actual efficiency of these tools in the real world. Does the verification of diversity completed analytics boost employee responsibility and engagement? In addition, such external variables as Monetary Status (FS) have an impact on such a dynamic in cities such as Karachi, where socio-economic disparities are still present.

Monetary Status involves the perceived economic security of the member which in many cases may be influenced by the ability to earn salary, amount of savings and ability to use benefits. It is an active part of decisive psychological present and appointment in the workplace. Even well-designed HR systems can be undermined by stresses that are evidenced by low motivation and structural commitment in the face of monetary stress.

Although some studies around the world associate variety practices with member outcomes, very minimal empirical research has been carried out in the secluded-sector situation in Pakistan especially along the lines of analytics-oriented concepts. It is in order to close this gap that the proposed learning will explore the role of the Diversity Analytics Index (DAI) and its impact on Employee Engagement Scores (EES), and to test the hypothesis that Financial Status (FS) mediates this effect within the framework of Karachi corporate organizations.

Scope

This study aims at exploring the effects of the Diversity Analytics Index (DAI) on Employee Engagement Scores (EES) of the corporate sector of Karachi, Pakistan. It entails the response of full-time teams that are engaged in different units of the organization like the human resource section, the finance section, the sales section, and the operations section in the case of the private organizations. The study also examines the question of whether Monetary Station (FS) defined as perceived degree of financial stability by the member modifies or controls this relationship. The data collection was conducted with the help of organized questionnaire and inspected with the help of Partial Least Squares Organizational Comparison Modeling PLS-SEM in Smart PLS 4. The grades are useful to evaluate the arithmetical correlation between three variable quantities and discuss the insinuations of HR analytics strategies.

Problem Statement

Contempt collective attention to factory diversity and member engagement, there is limited observed evidence in the Pakistani commercial sector on whether diversity analytics contributes to higher engagement. Moreover, the role of Financial Status in shaping or altering this relationship is largely unexplored. Without such evidence, HR departments may fail to design integrated strategies that combine data insights with employee welfare policies.

Research Objectives

1. To examine the impact of Diversity Analytics Index (DAI) on Employee Engagement Scores (EES).
2. To evaluate the influence of Financial Status (FS) on Employee Engagement.
3. To test whether Financial Status moderates the relationship between Diversity Analytics and Employee Engagement.
4. To validate the model's constructs using reliability and validity indicators through SmartPLS.

Limitations of the Study

This study has a few limitations that should be acknowledged:

- **Sample Size and Sampling Method:** The study used a non-probability convenience sampling technique with a sample of 130 respondents. This may limit the generalizability of the findings across all industries or regions in Pakistan.
- **Geographical Scope:** The research was confined to Karachi's private-sector organizations. Therefore, the findings may not apply to public-sector institutions or corporate environments in other cities.
- **Cross-Sectional Design:** Data were collected at a single point in time, which restricts the ability to infer causality among variables.

- **Self-Reported Data:** All responses were self-reported, which could be influenced by social desirability bias or misinterpretation of questions.
- **Moderating Variable Limitation:** Financial Status (FS), while relevant, may not fully capture the complexity of external socio-economic influences on employee engagement.

Significance of the Study

This research provides meaningful contributions both academically and practically:

- **Academic Contribution:** The study extends the existing HR analytics literature by exploring the impact of Diversity Analytics on engagement in a Pakistani corporate context, an area previously under-researched.
- **Theoretical Integration:** It merges Human Capital Theory with Social Exchange Theory, offering a holistic understanding of how internal diversity systems and external financial factors influence engagement.
- **Managerial Relevance:** The findings offer practical guidance to HR professionals seeking to improve employee engagement through data-driven strategies.
- **Policy Insight:** The results support the development of workplace policies that integrate diversity monitoring with broader employee support systems.
- **Foundation for Future Research:** This study opens new avenues for examining additional moderators or mediators—such as leadership, culture, and psychological safety—in the DAI–EES relationship.

Literature Review

Talent Analytics enhances traditional HR practices by integrating data analysis tools, such as workforce dashboards and diversity tracking systems, into decision-making. Existing studies show that analytics-based HR strategies promote transparency, fairness, and consistency in managing employee data and inclusion outcomes.

Diversity and Inclusion Metrics, however, often face issues of subjectivity and inconsistency. By applying Talent Analytics, organizations can reduce bias and make more equitable decisions regarding hiring, promotions, and representation. While global research supports this approach, there is limited evidence from Karachi's corporate sector. Additionally, Public Welfare Factors such as financial well-being and access to services may influence inclusion by affecting employee engagement, perceptions of fairness, and organizational trust.

Diversity Analytics and Employee Engagement

Diversity Analytics has emerged as a powerful HR tool for organizations aiming to ensure fairness, transparency, and representation in the workplace. It involves the use of data-driven systems to measure workforce diversity across dimensions such as gender, ethnicity, age, and department-level inclusion. These systems allow HR professionals to track hiring trends, promotion disparities, and representation ratios (Bersin, 2020).

Research suggests that organizations which systematically monitor diversity tend to report better employee satisfaction and engagement scores (Davenport, Guenole, & Harris, 2019). This is because visibility into inclusion efforts creates a perception of fairness and shared opportunity. When employees believe their organization is committed to equitable treatment, their psychological attachment to the workplace strengthens (Aral, Brynjolfsson, & Wu, 2020).

However, the application of Diversity Analytics in Pakistan remains under-documented. Most local organizations still rely on manual HR records or subjective evaluations, limiting their

ability to link diversity practices with engagement outcomes. Moreover, cultural factors such as hierarchy and group loyalty may influence how diversity is perceived, making the case for more context-specific studies in South Asian settings. This study fills that gap by examining whether tracking and analysing diversity indicators through the Diversity Analytics Index (DAI)—correlates with higher Employee Engagement Scores (EES) in Karachi-based companies.

Financial Status and Employee Engagement

Financial Status (FS) is a significant determinant of employee motivation, focus, and emotional well-being. It encompasses income level, access to financial resources, and perceived financial security. Several studies confirm that financially stable employees are more likely to show higher organizational commitment and engagement (Kim, Garman, & Sorhaindo, 2017). Financial stress, on the other hand, can impair performance, reduce morale, and increase absenteeism. Even the most inclusive workplace can fail to retain talent if employees are worried about basic financial needs. In this regard, Financial Status may act as a moderator, altering the strength or direction of the relationship between diversity practices and engagement outcomes (Garman, Leech, & Grable, 2016).

In Pakistan's private sector, rising inflation, job insecurity, and limited employee benefits have contributed to a growing concern about financial wellness. Yet, few HR strategies systematically account for how financial well-being interacts with engagement or inclusion. This research addresses that limitation by including FS as a moderating variable in the model.

Theoretical Framework

This study is based on two key theoretical perspectives: Human Capital Theory and Social Exchange Theory, which together explain how internal data-driven HR practices and external financial conditions shape employee engagement outcomes in organizations.

Human Capital Theory

Human Capital Theory (Becker, 1993) stresses the value of members' skills, data, and well-being as core assets that donate to organizational achievement. In the context of employee appointments, Diversity Analytics is seen as an tender of this theory—where data on personnel demographics, presence, and fairness are used to make knowledgeable HR decisions. By investing in schemes that promote diverse contributions and equitable representation, administrations enhance their social capital and foster stronger engagement. Diversity Analytics provisions this theory by aligning inclusion metrics with employee performance and development.

This theory ropes the argument that diversity-focused data systems pay to long-term employee motivation and structural loyalty by investing in inclusive talent management.

Social Exchange Theory

Social Exchange Theory (Blau, 1964) explains how work behavior is partial by reciprocal relationships. Teams are extra likely to involve, commit, and contribute absolutely when they perceive provision and equality from their employers. In this study, **Financial Status (FS)** represents a key component of perceived organizational support. When employees experience monetary constancy, they are more willing to respond with higher heights of engagement and effort. This philosophy supports the inclusion of Financial Status as a moderating variable, stressing how external economic factors influence the internal efficiency of diversity-related HR strategies.

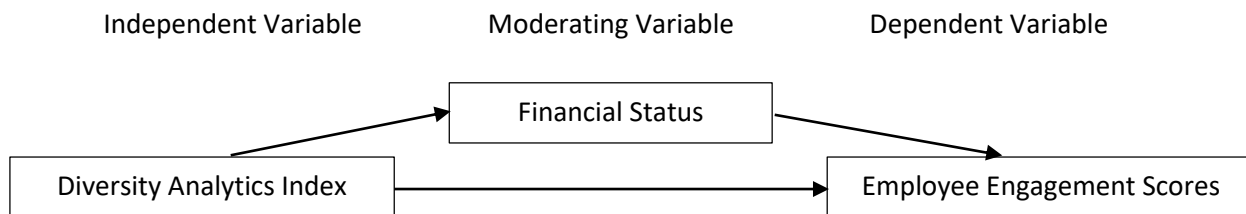
Conceptual Framework

Founded on the above notional underpinnings and the literature review, the theoretical framework of learning illustrates the association between Diversity Analytics Index (DAI) and Employee Engagement Scores (EES), with Financial Status (FS) serving as a controlling variable.

Key Constructs

- **Independent Variable:** Diversity Analytics Index (DAI)
- **Dependent Variable:** Employee Engagement Scores (EES)
- **Moderating Variable:** Financial Status (FS).

Fig. 1 Conceptual Framework



Study Hypotheses

H1: Diversity Analytics Index (DAI) has a optimistic and significant result on Employee Engagement Scores (EES).

H2: Financial Status (FS) has a important effect on Employee Engagement Scores (EES).

H3: Financial Status (FS) the association between Diversity Analytics Index (DAI) and Employee Engagement Scores (EES).

Methodology

This unit outlines the explore design, data assortment method, sampling strategy, instrument growth, and data study procedures used to inspect the impact of Diversity Analytics Index (DAI) on Employee Engagement Scores (EES), with Financial Status (FS) as a modest variable, in Karachi's corporate sector.

Research Design

This study employs quantitative research design using a cross-sectional survey approach. This design is appropriate for testing the hypothesized statistical relationships between constructions at a single point in time. The primary objective is to assess the influence of Diversity Analytics and Financial Status on Employee Engagement using Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS 4.

Population and Sample

The target population includes full-time employees from various private-sector organizations in Karachi, covering industries such as banking, technology, retail, and logistics. A non-probability convenience sampling technique was adopted due to constraints in time and access. The final sample comprised 130 valid responses, which exceeds the minimum required for PLS-SEM analysis, based on the rule of ten times the highest number of paths directed to any construct.

Data Collection

Data was collected through a **structured questionnaire** distributed both physically and digitally. Respondents were informed about the confidentiality of their responses and assured that participation was voluntary. Informed consent was obtained prior to data collection.

Instrumentation

The research instrument was adapted from **validated scales** in the existing literature. It comprised three main constructs:

- **Diversity Analytics Index (DAI):** Measured using **5 items** (DAI1–DAI5) that assessed the use of diversity-related data in workforce monitoring and decision-making.
- **Employee Engagement Scores (EES):** Measured using **5 items** (EES1–EES5) reflecting the respondent's emotional commitment, motivation, and connection to their organization.
- **Financial Status (FS):** Measured using **5 items** (FS1–FS5) indicating the respondent's perceived financial well-being and economic security.

Each item was rated on a 5-point Likert scale, ranging from 1 ("Strongly Disagree") to 5 ("Strongly Agree").

Data Analysis Technique

Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) in SMARTPLS 4. PLS-SEM was selected for its suitability in exploratory studies, ability to manage small sample sizes, and capacity to assess both measurement and structural models simultaneously.

Measurement Model Assessment

To ensure the reliability and validity of the constructs, the following criteria were applied:

- **Outer Loadings:** Acceptable if > 0.60
- **Cronbach's Alpha:** Acceptable if > 0.60
- **Composite Reliability (CR):** Acceptable if > 0.70
- **Average Variance Extracted (AVE):** Acceptable if > 0.50
- **Discriminant Validity:** Assessed using the Fornell-Larcker criterion, HTMT ratio, and cross-loadings

Structural Model Assessment

The structural model was evaluated based on the following indicators:

- **Path Coefficients (β):** Indicate the strength and direction of relationships

- **T-values and P-values:** Used to test statistical significance (thresholds: $T > 1.96$, $P < 0.05$)
- **R² Values:** Measure the explanatory power of the model
- **Interaction Effect:** Moderation analysis was conducted to assess the effect of Public Welfare Factors on the relationship between Talent Analytics and Diversity and Inclusion Metrics

Analyses and interpretations

Table 01 provides outer loadings for indicators of three constructs: Diversity Analytics Index (DAI), Employee Engagement Scores (EES), and Financial Status (FS). These loadings reflect the strength of association between each item and its respective latent construct. For example, DAI4 has a high loading of 0.893, indicating a strong contribution to the DAI construct. All indicators meet the recommended threshold of 0.70, except DAI1, which is still acceptable (Hair et al., 2021).

Table 01: Outer Loadings and Construct Reliability

Indicator	Loading	T-Value	P-Value
DAI1	0.792	16.125	0.000
DAI2	0.868	33.718	0.000
DAI3	0.859	28.330	0.000
DAI4	0.893	45.922	0.000
DAI5	0.856	31.293	0.000
EES1	0.866	28.948	0.000
EES2	0.924	49.082	0.000
EES3	0.902	35.938	0.000
EES4	0.920	49.823	0.000
EES5	0.888	35.532	0.000
FS1	1.000	n/a	n/a
FS2	0.844	25.874	0.000
FS3	0.868	27.680	0.000
FS4	0.913	38.477	0.000
FS5	0.874	29.789	0.000

Table 02 shows the reliability indicators for all constructs. Cronbach's Alpha values exceed the 0.70 benchmark, indicating strong internal consistency (Sultan et al. 2023). The Composite Reliability (CR) values also meet the recommended minimum of 0.70, ensuring scale reliability. Finally, the Average Variance Extracted (AVE) values are above 0.50, confirming good convergent validity. For instance, Employee Engagement Scores (EES) has an AVE of 0.811, suggesting that over 81% of the variance is captured by its indicators.

Table 02: Reliability Analysis

Construct	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Diversity Analytics Index	0.908	0.931	0.730
Employee Engagement Scores	0.941	0.955	0.811
Financial Status	0.918	0.938	0.753

Table 03 demonstrates that the square root of AVE for each construct (diagonal values) is greater than its correlation with other constructs, confirming discriminant validity. For instance, the diagonal value for EES (0.900) exceeds its correlation with DAI (0.681) and FS (0.615).

Table 03: Fornell-Larcker Criterion

Construct	DAI	EES	FS
Diversity Analytics Index	0.854		
Employee Engagement Scores	0.681	0.900	
Financial Status	0.726	0.615	0.868

Table 04 presents the Heterotrait-Monotrait Ratio (HTMT) values. All values are below the threshold of 0.90, confirming acceptable discriminant validity (Sultan et al., 2024). For instance, the HTMT between DAI and EES is 0.726, well below the cut-off.

Table 04: HTMT Matrix

Construct	DAI	EES	FS
Diversity Analytics Index			
Employee Engagement Scores	0.726		
Financial Status	0.785	0.659	

Table 05 shows that the model explains approximately 49.5% of the variance in Employee Engagement Scores (EES). This R² value suggests a moderate explanatory power, primarily driven by Diversity Analytics Index (DAI).

Table 05: R-square Value

Dependent Variable	R ²	Adjusted R ²
Employee Engagement Scores	0.495	0.479

Cross Loadings

Cross loadings confirm discriminant validity, as each indicator loads highest on its assigned construct. For example, DAI3 has its highest loading on DAI (0.859) compared to EES (0.564) and FS (0.676), indicating construct independence.

Table 06: Cross Loading

	DAI	EES	FS	FS x DAI
DAI1	0.792	0.439	0.469	-0.038
DAI2	0.868	0.647	0.661	-0.045
DAI3	0.859	0.564	0.676	-0.099
DAI4	0.893	0.644	0.628	-0.224
DAI5	0.856	0.579	0.640	-0.189

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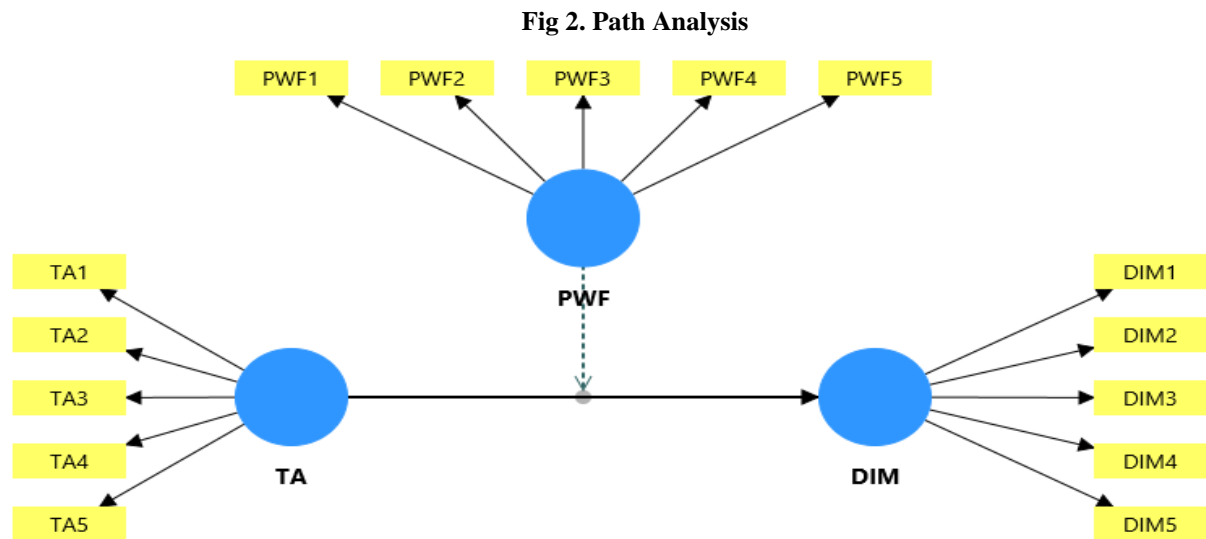
EES1	0.549	0.866	0.576	-0.050
EES2	0.629	0.924	0.600	-0.122
EES3	0.669	0.902	0.515	-0.120
EES4	0.602	0.920	0.511	-0.040
EES5	0.611	0.888	0.568	-0.055
FS x DAI	-0.144	-0.087	-0.130	1.000

Path Analysis

Table 07 presents the results of the. The relationship between Diversity Analytics Index (DAI) and Employee Engagement Scores (EES) is statistically significant ($\beta = 0.498, p < 0.001$), indicating a strong positive influence. However, the direct effect of Financial Status (FS) on EES is not statistically significant ($p = 0.089$), and the interaction term ($FS \times DAI$) is also non-significant ($p = 0.768$), suggesting that FS does not moderate the DAI–EES relationship

Table 07: Path Analysis Summary

Relationship	Coefficient	T-Value	P-Value
DAI -> EES	0.498	3.616	0.000
FS -> EES	0.256	1.700	0.089
FS x DAI -> EES	0.015	0.295	0.768



Discussion

The findings of this study offer valuable insights into the relationship between Diversity Analytics Index (DAI) and Employee Engagement Scores (EES) within Karachi's corporate sector. As hypothesized, DAI demonstrated a statistically significant and positive impact on EES

($\beta = 0.498$, $p < 0.001$), suggesting that organizations that actively track diversity through data systems are more likely to foster greater employee engagement.

This finding aligns with previous research that links inclusive practices and transparency with higher workplace motivation and emotional commitment (Davenport et al., 2019; Bersin, 2020). It supports the Human Capital Theory by showing that investments in inclusion, when data-informed, yield returns in the form of more engaged employees.

Conversely, the effect of Financial Status (FS) on engagement was not statistically significant ($\beta = 0.256$, $p = 0.089$), though its coefficient suggested a weak positive trend. Moreover, FS did not significantly moderate the DAI–EES relationship ($\beta = 0.015$, $p = 0.768$). This result is noteworthy. Although Social Exchange Theory posits that financial well-being enhances reciprocal workplace behavior, it appears that in the current sample, FS alone did not meaningfully alter the impact of diversity analytics on engagement.

There are several possible explanations for this. First, organizations may already be using general benefits and compensation strategies across all levels, reducing variability in perceived financial stress. Second, employees may view diversity and engagement as cultural or relational constructs rather than financial. Lastly, FS may act as a mediator rather than a moderator, which future research could explore.

The R^2 value of 0.495 suggests that the model explains nearly half the variance in EES. This is a moderate level of explanatory power and highlights the strength of DAI as a predictor of employee engagement. It also points to the potential value of exploring other variables such as leadership support, organizational trust, or psychological safety to improve model productiveness. Overall, the results reinforce the role of data-driven HR systems in advancing employee engagement but also signal the need for comprehensive frameworks that integrate financial wellness strategies with diversity and inclusion analytics.

Conclusion

This study examined the impact of Diversity Analytics Index (DAI) on Employee Engagement Scores (EES), with Financial Status (FS) as a moderating factor, within Karachi's corporate organizations. The results confirmed that DAI significantly improves engagement, highlighting the value of diversity tracking as an HR tool. However, FS did not significantly affect engagement nor moderate the DAI–EES relationship.

These findings suggest that while data-backed inclusion practices directly influence employee attitudes, financial well-being does not substantially change this effect on its own. The study contributes to the growing literature on HR analytics by contextualizing diversity-focused systems in a South Asian corporate setting.

Recommendations

Based on the findings, the following recommendations are proposed:

- **Align Diversity Analytics with Engagement Metrics:** Organizations should ensure that diversity-related data is not collected in isolation but linked to employee satisfaction and performance indicators.
- **Enhance Reporting Transparency:** HR departments should regularly communicate diversity metrics and progress with staff to build trust and increase inclusiveness.
- **Address Financial Wellness Separately:** While FS did not act as a moderator, organizations should still develop standalone strategies to reduce financial stress, such as wellness programs, counselling, and flexible benefits.

- Use Analytics to Track Inclusion Outcomes: HR analytics systems should be customized to monitor not just demographic data, but also career progression and feedback patterns across diverse employee segments.
- Explore Additional Moderators: Future studies should include constructs such as organizational culture, psychological safety, or leadership behavior to better understand the DAI–EES linkage.

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