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The Impact of Job Satisfaction on Employee Engagement: The Mediating Role of Organizational Factors

Abstract

Research background and purpose: The article examines how job satisfaction contributes to employee engagement, with particular emphasis on the mediating role of organizational attitudes such as organizational membership, organizational commitment, employee loyalty, and identification with the company. Understanding these relationships is crucial for organizations aiming to increase employee effectiveness and retention.

Design/methodology/approach: The study was conducted using the CAWI method on a sample of 850 employees from Poland. Validated measurement tools were used, including the SAT-20 scale to assess job satisfaction and the UWES scale to measure employee engagement. The analysis was carried out using linear regression and the bootstrap mediation method. This allowed for determining whether job satisfaction influences engagement directly or through other factors. The reliability of the results was also assessed by analyzing 95% confidence intervals and the R^2 coefficient, which indicates how well the statistical model explains the relationships between the variables studied.

Findings: The results confirmed a strong positive relationship between job satisfaction and employee engagement. Job satisfaction explained 46.4% of the variance in engagement (R^2 = 0.464), while engagement explained 68.1% of the variance in satisfaction (R^2 = 0.681). Mediation analysis showed that organizational identification, loyalty, commitment, and membership significantly mediated the relationship between satisfaction and engagement. The proportion of the total effect mediated ranged from 34.5% to 40.7%, indicating that these post-attitudinal factors play a meaningful role in shaping employee engagement. The reliability of the results was supported by narrow 95% confidence intervals.

Value added and limitations: The study highlights the significance of job satisfaction as a key factor influencing employee engagement, emphasizing the important role of mediating mechanisms. The results provide valuable insights for HR managers, helping in the development of strategies aimed at increasing employee loyalty and identification with the company. A limitation of the study is its correlational nature, which makes it difficult to determine causal relationships. Future research should expand the analysis to other countries and sectors, as well as include additional factors such as organizational culture and management style.

Keywords: *work engagement, job satisfaction, work psychology, mediating factors*

JEL: J28, M12, D23, L21,M54

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1. Introduction

Employee engagement is one of the key factors determining organizational success in the context of dynamic market changes and increasing competition. Highly engaged employees are more productive, motivated, and loyal to their organization, and they exhibit lower turnover intentions (Hamar et al., 2015; Kim et al., 2012).

Previous research has shown that both organizational and individual factors influence the level of employee engagement. The literature most commonly identifies job resources (Bakker & Demerouti, 2007), personal resources (Xanthopoulou et al., 2009), job characteristics (Hackman & Oldham, 1980), and organizational culture and leadership style (Tims et al., 2011) as key predictors. Among these factors, job satisfaction plays a particularly important role, as it is a significant predictor of employee well-being and organizational performance (Solinger et al., 2021).

According to Cook (2008), a 10% increase in employee engagement leads to a 6% increase in job satisfaction. Moreover, the probability that engaged employees will leave their organization is 33% lower compared to their less engaged counterparts.

Several mediating factors influence the strength of the relationship between job satisfaction and engagement. These include organizational belonging, organizational identification, employee loyalty, and organizational commitment. These factors can either strengthen or weaken the effect of job satisfaction on engagement depending on how well they align with employees' needs and expectations (Bakker & Demerouti, 2017).

While previous studies have confirmed the existence of a relationship between job satisfaction and engagement, they rarely analyze the independent effect of mediating variables. Most models examine these constructs in a unidirectional manner, overlooking the possibility that the mediators might independently shape both job satisfaction and engagement. These interactions are often not considered as mutually independent or reciprocal, revealing a clear research gap (Stefańska & Grabowski, 2023; Lipińska-Grobelny & Ciesielska, 2018; Rakowska & Mendryk, 2017; Kulikowski & Madej, 2014; Świątek-Barylska, 2013; Bańka, Wołowska, & Bazińska, 2002; Mowday et al., 2000).

This study investigates whether the abovementioned mediators (organizational commitment, loyalty, belonging, and identification) not only transmit the effect of job satisfaction on engagement but also to what extent they independently influence both constructs, thus functioning as active components within this mechanism.

Based on the above considerations, the aim of this study is to examine the effect of job satisfaction on employee engagement, taking into account the role of mediating organizational variables. The analysis is based on empirical data collected from 850 employees in Poland, using standardized measurement tools. Linear regression and bootstrap mediation analyses were employed, clearly demonstrating both direct and indirect dependencies between the studied variables.

2. Theoretical background

2.1. Job satisfaction and work engagement

Work engagement is defined as a positive, energized state of mind related to one's job, characterized by three main components: vigor, dedication, and absorption (Demerouti & Bakker, 2023). In the 1990s, the organizational commitment model, often referred to as the three-dimensional model of commitment, was introduced. Initially, it distinguished between two components: affective commitment and continuance commitment (Bańka et al. 2002). Later, a third dimension was added: normative commitment (Sewastianik, 2014).

In the literature, the term employee engagement is commonly used as an overarching concept encompassing various engagement typologies and refers to factors influencing an employee's contribution to organizational goals (Górniak, 2016). Engagement can be defined on three levels: as a trait, a state, and a behavior. Trait engagement refers to a stable personal disposition to engage in work-related activities and tasks with high energy and emotional involvement (Avolio & Gardner, 2005). State engagement is conceptualized as the intensity and emotional involvement of an individual in a specific task or activity (Schaufeli et al., 2002). Behavioral engagement refers to observable activities undertaken by an individual in the context of performing work or completing tasks, which reflect high levels of emotional commitment, dedication, and initiative in achieving organizational objectives (Macey, 2008).

Research shows that engagement is shaped by a wide array of factors (Solinger et al., 2021; Kim et al., 2012; Judge et al., 2017; Breevaart et al., 2014; Tims et al., 2013; Świątek-Barylska, 2013; Schaufeli et al., 2006; Xanthopoulou et al., 2009; Bakker & Demerouti, 2008; Luthans et al., 2007; Xanthopoulou et al., 2007; Bakker & Demerouti, 2007; Saks, 2006; Hakanen, Bakker & Schaufeli, 2006; Hakanen et al., 2008; May, Gilson & Harter, 2004; Schaufeli & Bakker, 2004; Bakker, Demerouti & Verbeke, 2004; Kahn, 1990; Allen & Meyer, 1990; Hackman & Oldham, 1980; Mowday et al., 1979). According to the Job Demands–Resources (JD-R) model, job resources such as autonomy, feedback, supervisor and peer support, and opportunities for development are of critical importance (Bakker & Demerouti, 2017; Bakker & Demerouti, 2007). In addition, personal resources—such as optimism, psychological resilience, and self-efficacy—play a key role in promoting engagement (Xanthopoulou et al., 2009). Likewise, job characteristics—including task variety, autonomy, and job significance—as described in the classical model by Hackman and Oldham (1980), positively influence perceived meaningfulness of work and thereby foster engagement (Tims et al., 2013). Leadership style and organizational culture are also recognized as relevant contextual variables (Kim et al., 2019).

Among the many factors influencing engagement, job satisfaction holds a particularly prominent role. Among the numerous factors influencing work engagement, job

satisfaction is considered particularly important due to its role in fostering intrinsic motivation, a sense of meaning in work, and an emotional connection with the organization (Judge et al., 2017; Solinger et al., 2021).

Job satisfaction is a positive attitude, an individual's opinion or expressed perception toward their work. It is typically defined across three components—cognitive, emotional, and intentional (Żołędowska, 2005). Each of these components captures different aspects of how employees perceive their job satisfaction: the cognitive component relates to a rational evaluation of the job and its conditions, such as salary or career advancement opportunities (Winton, 2023). The emotional component refers to the feelings and both verbal and non-verbal expressions an employee associates with their job (Oh & Pyo, 2023). The intentional component concerns the employee's intended actions or behavioral intentions regarding their future in the workplace (Kinnary et al., 2023).

Numerous empirical studies have demonstrated a positive correlation between job satisfaction and employee engagement (Farzana, 2022; Reissová & Papay, 2021; Kim et al., 2019; Cook, 2008; Schaufeli & Bakker, 2004). These findings suggest that job satisfaction is a significant predictor of employees' active involvement in the achievement of organizational goals.

H_{M1}: *There is a positive mutual relationship between job satisfaction and work engagement.*

2.2. Mediating factors as attitudes of engagement and job satisfaction: organizational membership, employee loyalty, organizational identification, and organizational commitment

The impact of job satisfaction on engagement is not direct — it is mediated by attitudes such as organizational membership, employee loyalty, organizational identification, and commitment. Previous research suggests that the effect of job satisfaction on work engagement may be both direct and indirect. Specifically, studies have shown that factors such as organizational identification (Divya & Prabu Christopher, 2024), loyalty (Abror et al., 2020), organizational commitment (Landis et al., 2015), and organizational membership (Rachel, 2023) may function as mediators in this relationship. However, these studies do not examine these variables collectively, nor do they consider them in the context of employees in Poland. Therefore, the present study proposes a mediation model comprising four attitudinal constructs which—based on the literature—may help to explain the mechanisms through which job satisfaction leads to work engagement.

A sense of organizational membership is often linked to an employee's identification with the company's goals and values, as well as relationships with colleagues. Employees who experience belonging perceive themselves as an integral part of the organization in which they work (Huynh et al., 2012). Employees desire to belong to an organization

because this generates positive emotions and satisfaction (Springer, 2016). Three dimensions of employee membership to an organization can be distinguished: affectvie, normative and instrumental (Łaguna et al., 2015).

H_{M2}: *Organizational membership mediates the relationship between job satisfaction and employee engagement.*
$H_{S2..1}$: *Organizational membership has a positive impact on employee job satisfaction.*

Employee identification with the organization is influenced by personality traits and the nature of tasks (Mirda & Prasetyo, 2022). There are four methods of categorizing employee identification: active contribution to work, making work a primary interest, achieving results aligned with one's self-perception, using work as a foundation for self-esteem (Shrestha & Prajapati, 2022).

The key factors determining identification include perceived organizational support and peer relationships (Yenhui et al., 2009).

H_{M3}: *Employee identification with the organization mediates the relationship between job satisfaction and employee engagement.*

Employee loyalty is defined as a strong adherence to the organization (Springer, 2016), driven by three key factors: attachment to the social status provided by the organization, fear of losing financial stability, perception of limited alternative opportunities in the job market (Scheible & Bastos, 2013). A loyal employee believes that leaving the organization would result in significant personal harm, which serves as the primary reason for staying (Balsan et al., 2020).

Employee loyalty is influenced by work-life quality, which, in turn, affects job satisfaction (Chinomona & Dhurup, 2014). Loyalty is developed through employee engagement, job satisfaction, workplace communication, compensation, and benefits (Abror et al., 2020). Employees who are loyal to the organization are more likely to remain in their positions (Nguyen & Ha, 2023).

H_{M4}: *Employee loyalty mediates the relationship between job satisfaction and employee engagement.*

Organizational commitment refers to the extent to which an employee recognizes themselves as a member of the organization and whether they understand and strive to achieve its goals (Robbins & Judge, 2015). It is associated with an employee's reluctance to leave due to financial and personal costs incurred, as well as a sense of obligation toward the organization (Landis et al., 2015). Commitment reflects an employee's willingness to remain in the organization, invest their time and energy, and go beyond basic responsibilities to contribute to its success (Ebube et al., 2022).

H_{M5}: *Organizational commitment does not mediate the relationship between job satisfaction and employee engagement.*
$H_{S5.1}$: *Organizational commitment positively influences employee engagement, and vice versa.*

Job satisfaction and employee engagement are two key factors influencing employee performance. Although they are distinct concepts, they are closely interconnected. Job satisfaction affects employee loyalty and identification with the organization, which subsequently translates into engagement. Conversely, employee engagement influences organizational commitment, and committed employees tend to be more engaged in their responsibilities and the overall organizational environment. A certain level of job satisfaction encourages employees to actively participate in the organization's social life, fostering a sense of belonging. In turn, organizational belonging enhances engagement, as employees who perceive themselves as valuable members of the company are more willing to perform their duties. Furthermore, belonging positively affects job satisfaction, as employees who feel appreciated and important experience a higher level of satisfaction. Based on these theoretical aspects and the formulated hypotheses, a research model structure has been proposed, as illustrated in Figure 1. The analysis used four independent mediation models - each of the examined mediators was tested separately in the relationship between satisfaction and engagement using the bootstrap method.

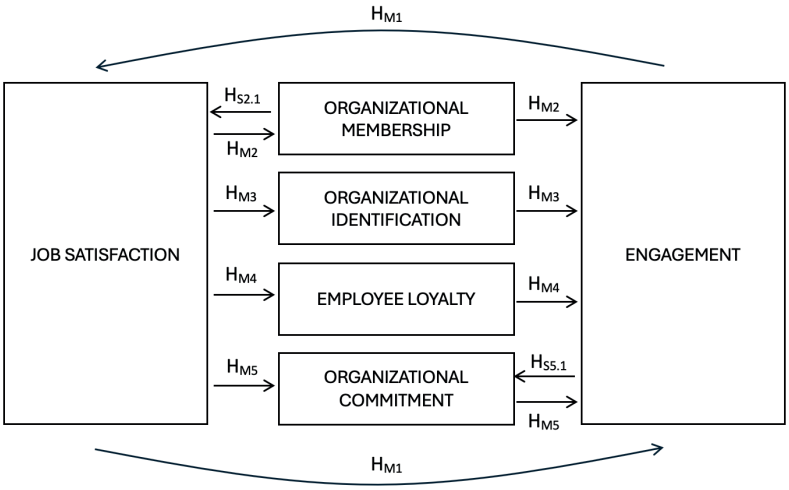

Figure 1. **Research assumptions**

Source: own study

3. Measurements, methods, and sample

The objective of this study was to examine the impact of job satisfaction on employee engagement and analyze the role of four mediating factors: organizational belonging, organizational commitment, employee loyalty, and organizational identification. The research was conducted using the CAWI (Computer-Assisted Web Interviewing) method, which involved an online questionnaire. The questionnaire consisted of seven sections containing closed-ended questions, designed to collect detailed information on job satisfaction, employee engagement, and mediating factors.

To operationalize the constructs analyzed in the theoretical section of this article, validated research tools developed in previous empirical studies within these areas were utilized:

- SAT-20 scale (Jurek, 2017), consisting of 20 items measuring dimensions of job satisfaction, such as professional development, salary, tasks, and interpersonal relationships,
- Polish version of the UWES scale (Kulikowski & Madej, 2013), comprising 17 items describing respondents' perceptions of vigor, dedication, and absorption as dimensions of work engagement,
- Polish version of the Organizational Commitment Scale (Bańka, Wołowska, & Bazińska, 2002), assessing the three main dimensions of commitment: affective, continuance, and normative commitment,
- Employee Loyalty Scale (Świątek-Barylska, 2013), containing 20 questions divided into four groups addressing various aspects of employee loyalty,
- Organizational Membership Scale (Mowday, Steers, & Porter, 1979), consisting of 18 questions distinguishing emotional, normative, and continuance membership,
- The Organizational Identification Questionnaire (OIQ) (Miller, Allen, Casey, & Johnson, 2000), composed of 12 statements assessing organizational identification in the areas of membership, loyalty, and similarity.

The survey questionnaire also included a demographic section consisting of 10 questions, covering gender, age, place of residence, work experience, the number of companies the respondent has worked for, level of education, economic sector, company size, and work mode. Table 1 presents the Cronbach's alpha (α) values for the six examined constructs. All scales demonstrated at least good internal consistency ($\alpha > 0.80$), with the highest reliability obtained for the engagement scale ($\alpha = 0.954$) and the commitment scale ($\alpha = 0.946$). These results confirm the high quality and reliability of the measurement tools used in the study.

Table 1. **Cronbach's alpha () coefficients for the six constructs**

Construct	Cronbach's Alpha (α)	Interpretation
Job satisfaction	0.937	High consistency
Engagement	0.954	Very high consistency
Commitment	0.946	Very high consistency
Loyalty	0.919	High consistency
Organizational Membership	0.902	High consistency
Identification	0.833	Good consistency

Source: own study

The analysis of the demographic characteristics provides a clear overview of the socio-professional structure of the respondents, which is crucial for the interpretation of the results. The sample consists of 850 participants, with 65.9% being women. The largest group of respondents falls within the age range of 26-35 years (41.5%), followed by 36-45 years (30.0%). The majority of participants reside in urban areas (81.9%), with 24.4% living in metropolitan areas with over 500,000 inhabitants. A significant proportion of the respondents hold a higher education degree (63.3%), while only 4.9% have education below secondary level. In terms of professional experience, most employees have 6-10 years of experience (26.4%), and 18.8% have worked for over 20 years. A large majority of respondents (95.3%) are employed, with 73.5% working on-site and 7.6% working remotely. 48.8% of respondents have worked in at least three different companies, indicating a high level of career mobility. The majority of respondents work in large companies (38.4%) and medium-sized enterprises (26.8%). The dominant sector is services (71.1%), followed by the industrial sector (26%), and the agricultural sector (2.9%). These demographic data provide a solid foundation for further analyses and conclusions, helping to contextualize the findings of the study.

4. Results

The conducted research focuses on understanding the mechanisms influencing employee engagement in the context of job satisfaction. According to the research assumptions, job satisfaction is a key determinant of organizational effectiveness, and its relationship with engagement represents a crucial area of analysis. This study aimed not only to confirm the direct impact of job satisfaction on engagement but also to explore the mediating roles of factors such as organizational belonging, employee

loyalty, and organizational identification. The findings highlight the complexity of these relationships, while emphasizing job satisfaction as a fundamental predictor of engagement. To test the formulated hypotheses, linear regression models were applied, allowing for precise estimation of structural parameters, such as regression coefficients (β) and their statistical significance. The mediation analysis, based on the bootstrap methodology, enabled the decomposition of the total effect of job satisfaction on engagement into direct and indirect effects, accounting for the roles of mediating variables such as organizational belonging, organizational identification, and loyalty. Additionally, statistical indicators such as confidence intervals (95% CI), t-values, and determination coefficients (R^2) provided a reliable assessment of model fit and the strength of the analyzed relationships. To better illustrate the intensity of the dichotomous variables studied, mean values and standard deviations were calculated. The results are presented in Table 2.

Table 2. **Means and standard deviations of dichotomous variables**

Construct	Mean	Standard Deviation
Job satisfaction	0.125	0.330
Engagement	0.284	0.451
Commitment	0.172	0.377
Loyalty	0.281	0.450
Organizational Membership	0.040	0.196
Identification	0.179	0.383

Source: own study

H_{M1}: *There is a positive mutual relationship between job satisfaction and work engagement.*

First, the correlation between job satisfaction and work engagement was examined. A strong and statistically significant positive relationship was found between job satisfaction and employee engagement ($r = 0.656$, $p < 0.001$). In the initial regression analysis, job satisfaction was treated as the independent variable and employee engagement as the dependent variable. The following regression model was obtained:

$$Z = -1.817 + 0.912S$$

The model was statistically significant ($p < 0.001$). The slope coefficient for Satisfaction, equal to 0.912, was also statistically significant ($p < 0.001$). This coefficient indicates that

a one-unit increase in job satisfaction is associated with an average increase of 0.912 units in work engagement. The coefficient of determination $R^2 = 0.464$ suggests that the model explains 46.4% of the variance in employee engagement, indicating that job satisfaction is a substantial predictor of engagement. In the second step, employee engagement was used as the independent variable, and job satisfaction as the dependent variable. The regression model obtained was:

$$S = 35.399 + 0.508Z$$

This model was also statistically significant ($p < 0.001$). The slope coefficient for Engagement, equal to 0.508, was statistically significant ($p < 0.001$). The coefficient of determination $R^2 = 0.681$ indicates that the model explains 68.1% of the variance in employee satisfaction. This is a moderately high value, suggesting that organizational attachment (as expressed through engagement) plays a significant role in shaping job satisfaction. In both regression analyses, the slope coefficients were significantly different from zero, and the variables explained a moderate proportion of each other's variance. These results support the existence of a bidirectional relationship between job satisfaction and work engagement.

H_{M2}: *Organizational membership mediates the relationship between job satisfaction and employee engagement.*

For the mediation analysis, job satisfaction was selected as the predictor, organizational belonging as the mediator, and employee engagement as the dependent variable, The mediation analysis was conducted using the bootstrap method with 5,000 replications (presented in Table 3). The direct effect (ADE) of job satisfaction on engagement was found to be statistically significant ($p < 0.001$). However, the mediating effect of organizational belonging (ACME) was not statistically significant ($p = 0.442$). This result indicates that organizational belonging does not serve as a significant mediator in the relationship between job satisfaction and employee engagement.

Table 3. **Mediation analysis results for H_{M2}**

ACME (Average Causal Mediation Effect)	
Mediating Effect	0,183
95% Confidence Interval	(-0,283; 0,666)
Significance	p=0,442

ADE (Average Direct Effect)	
Direct Effect	0,724
95% Confidence Interval	(0,655; 0,796)
Significance	p<0,001
Total effect	
Total Effect	0,907
95% Confidence Interval	(0,431; 1,382)
Significance	p<0,001
Proportion mediated	
Proportion of Mediating Effect	0,201
95% Confidence Interval	(-0,661, 0,484)
Significance	p=0,442

Source: own study

$H_{S2..1}$: *Organizational membership has a positive impact on employee job satisfaction.*

There is a significant strong positive correlation between organizational membership and job satisfaction ($r = 0.483$, $p < 0.001$). This indicates that the greater an employee's sense of organizational membership, the higher their job satisfaction. Additionally, there is a significant positive correlation, either strong or moderate, between organizational membership and each of its subscales.

There is a significant strong positive correlation between organizational membership and job satisfaction ($r = 0.483$, $p < 0.001$). This suggests that the greater an employee's sense of organizational membership, the higher their job satisfaction. Additionally, a significant positive correlation, either strong or moderate, was observed between organizational membership and each of its subscales. The following regression model was obtained:

$$S = 28{,}832 + 0{,}664PO.$$

The model (Figure 2) was found to be statistically significant ($p < 0.001$). The slope coefficient for Organizational Belonging (0.664) is statistically significant ($p < 0.001$). This coefficient indicates that a one-unit increase in organizational membership leads to an average increase in job satisfaction by 0.664 units. For a zero level of

organizational membership, the predicted level of job satisfaction is 28.832. The coefficient of determination (R^2 = 0.501) suggests that the model explains 50.1% of the variance in job satisfaction. This represents a moderately high result, indicating that organizational membership is a significant predictor of job satisfaction. Residual analysis showed no autocorrelation (Durbin-Watson test: 1.97). The normality test for residuals (Jarque-Bera, $p < 0.001$) suggests some deviations from normality; however, given the large sample size (n = 850), these deviations do not significantly impact the reliability of the results.

Figure 2. **The relationship between organizational membership and job satisfaction**

Source: own study

The findings confirm the existence of a statistically significant and positive relationship between organizational membership and job satisfaction. An increase in organizational membership leads to higher job satisfaction, supporting the research hypothesis. Therefore, there is no basis to reject the proposed hypothesis.

H_{M3}: *Employee identification with the organization mediates the relationship between job satisfaction and employee engagement.*

For the mediation analysis, job satisfaction was selected as the independent variable, organizational identification as the mediator, and employee engagement as

the dependent variable The analysis was conducted using the bootstrap method with 5,000 replications (Table 4). The indirect effect of 0.372 indicates that a portion of the effect of job satisfaction on employee engagement is mediated through organizational identification. This indirect effect is statistically significant ($p < 0.001$), suggesting that organizational identification indeed serves as a mediator in this relationship.

Table 4. **Mediation analysis results for H_{G3}**

ACME (Average Causal Mediation Effect)	
Mediating Effect	0.372
95% Confidence Interval	(0,292; 0,458)
Significance	p<0,001
ADE (Average Direct Effect)	
Direct Effect	0.540
95% Confidence Interval	(0,426; 0,647)
Significance	p<0,001
Total effect	
Total Effect	0.912
95% Confidence Interval	(0,839; 0,984)
Significance	p<0,001
Proportion mediated	
Proportion of Mediating Effect	0.407
95% Confidence Interval	(0,316, 0,514)
Significance	p<0,001

Source: own study

The direct effect (ADE) of job satisfaction on employee engagement is statistically significant ($p < 0.001$). This indicates that even after accounting for the mediator (organizational identification), job satisfaction still influences employee engagement. This suggests that job satisfaction impacts engagement both directly and indirectly through organizational identification. The proportion of the mediating effect is 0.407, meaning that approximately 40.7% of the total effect of job satisfaction on engagement is mediated by organizational identification. This implies that organizations can increase

employee engagement not only by improving job satisfaction, but also by strengthening identification with the company. Therefore, there is no basis to reject the proposed hypothesis.

H_{M4}: *Employee loyalty mediates the relationship between job satisfaction and employee engagement.*

To verify the hypothesis, a mediation analysis was conducted. Job satisfaction was selected as the independent variable, employee loyalty served as the mediator, and employee engagement was treated as the dependent variable. The analysis was performed using a bootstrapped mediation approach with 5,000 replications (Table 5).

Table 5. **Mediation analysis results for H_{G4}**

ACME (Average Causal Mediation Effect)	
Mediating Effect	0.315
95% Confidence Interval	(0,239; 0,388)
Significance	p<0,001
ADE (Average Direct Effect)	
Direct Effect	0.597
95% Confidence Interval	(0,496; 0,704)
Significance	p<0,001
Total effect	
Total Effect	0.912
95% Confidence Interval	(0,837; 0,986)
Significance	p<0,001
Proportion mediated	
Proportion of Mediating Effect	0.345
95% Confidence Interval	(0,259, 0,431)
Significance	p<0,001

Source: own study

The indirect effect of 0.315 indicates that a portion of the effect of job satisfaction on employee engagement is mediated through loyalty to the organization. This indirect effect is statistically significant ($p < 0.001$), suggesting that loyalty to the organization indeed serves as a mediator in this relationship. The direct effect (ADE) of job satisfaction on engagement is also statistically significant ($p < 0.001$). This means that even after accounting for the mediator (loyalty to the organization), job satisfaction still influences employee engagement. This indicates that job satisfaction affects engagement both directly and indirectly through loyalty. The proportion of the mediating effect of 0.345 means that approximately 34.5% of the total effect of job satisfaction on engagement is mediated by loyalty to the organization. This suggests that organizations can enhance employee engagement not only by improving job satisfaction, but also by strengthening loyalty to the company. Therefore, there is no basis to reject the proposed hypothesis.

H_{M5}: *Organizational commitment mediates the relationship between job satisfaction and employee engagement.*

To test the hypothesis, mediation analysis was conducted. Job satisfaction was selected as the independent variable, organizational commitment as the mediator, and employee engagement as the dependent variable. The analysis was performed using the bootstrap method with 5,000 replications (Table 6).

Table 6. **Mediation analysis results for H_{G5}**

ACME (Average Causal Mediation Effect)	
Mediating Effect	0.367
95% Confidence Interval	(0,306; 0,432)
Significance	p<0,001
ADE (Average Direct Effect)	
Direct Effect	0.546
95% Confidence Interval	(0,458; 0,635)
Significance	p<0,001
Total effect	
Total Effect	0.912
95% Confidence Interval	(0,840; 0,987)
Significance	p<0,001

Proportion mediated	
Proportion of Mediating Effect	0.402
95% Confidence Interval	(0,333, 0,477)
Significance	p<0,001

Source: own study

The indirect effect of 0.367 indicates that part of the impact of job satisfaction on employee engagement is mediated through organizational commitment. This indirect effect is statistically significant ($p < 0.001$), suggesting that organizational commitment indeed serves as a mediator in this relationship.

The direct effect (ADE) of job satisfaction on engagement is also statistically significant ($p < 0.001$). This indicates that even after accounting for the mediator (organizational commitment), job satisfaction still influences employee engagement.

This suggests that job satisfaction impacts engagement both directly and indirectly through organizational commitment.

The proportion of the mediating effect of 0.402 means that approximately 40.2% of the total effect of job satisfaction on engagement is mediated by organizational commitment. This implies that organizations can enhance employee engagement not only by improving job satisfaction, but also by strengthening organizational commitment. Based on this there is no basis to reject the proposed hypothesis.

$H_{S5.1}$: *Organizational commitment positively influences employee engagement, and vice versa.*

Firstly, the correlation between organizational commitment and employee engagement was examined. A strong positive significant correlation was found between organizational commitment and employee engagement ($r = 0.673$, $p < 0.001$). This suggests that organizational commitment and employee engagement are strongly related. Given this strong correlation, both directions of the relationship were examined. Initially, organizational commitment was treated as the independent variable, and employee engagement as the dependent variable. The following regression model was obtained:

$$Z = 15{,}471 + 0{,}601P.$$

The model – Figure 3 – was found to be statistically significant ($p < 0.001$). The slope coefficient for Organizational Commitment (0.601) is statistically significant ($p < 0.001$). This coefficient indicates that a one-unit increase in organizational

commitment leads to an average increase in employee engagement by 0.601 units. For a zero level of organizational commitment, the predicted level of employee engagement is 15.471.

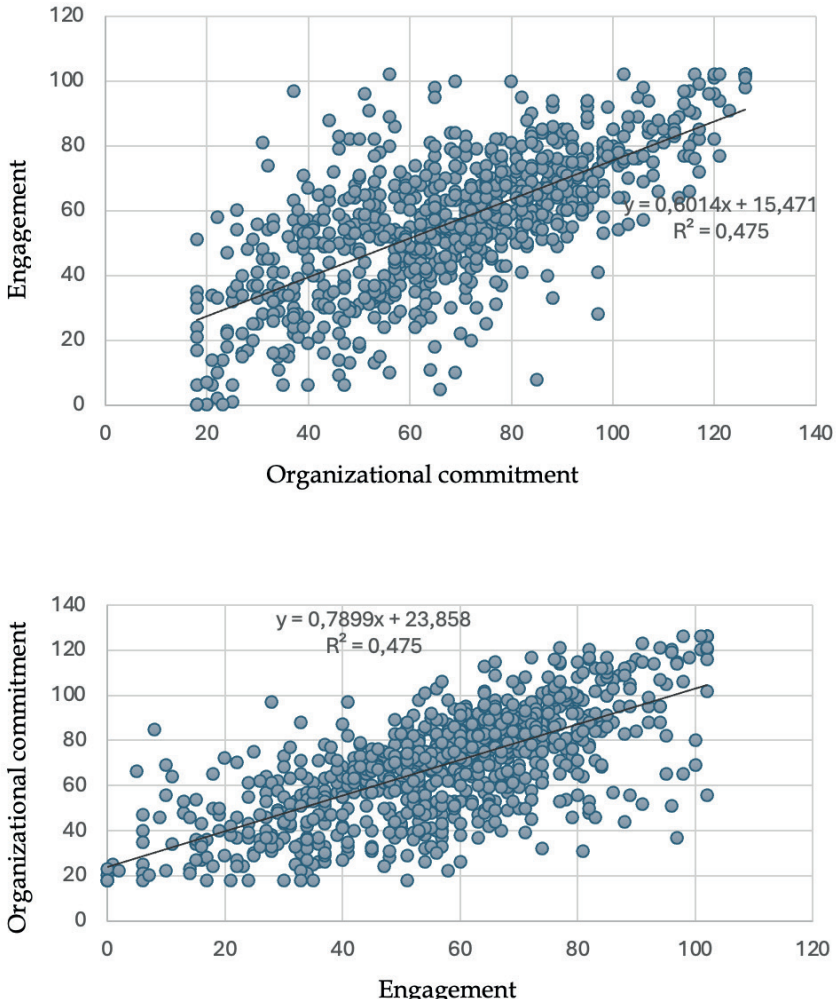

Figure 3. **The relationship between organizational commitment and employee engagement, and vice versa**

Source: own study

The coefficient of determination ($R^2 = 0.689$) indicates that the model explains 68.9% of the variance in employee engagement. This is a moderately high result, suggesting that organizational commitment is a significant factor influencing engagement. In the second step, employee engagement was treated as the independent variable, and organizational commitment as the dependent variable. The following regression model was obtained:

$$P = 23{,}858 + 0{,}790Z.$$

The model was found to be statistically significant ($p < 0.001$). The slope coefficient for employee engagement (0.790) is statistically significant ($p < 0.001$). This coefficient indicates that a one-unit increase in engagement leads to an average increase in organizational commitment by 0.790 units. For a zero level of engagement, the predicted level of organizational commitment is 23.858.

The coefficient of determination ($R^2 = 0.689$) indicates that the model explains 68.9% of the variance in organizational commitment. This is a moderately high result, suggesting that organizational commitment is a significant factor influencing engagement. In both cases, the directional coefficients are significantly different from zero, and the variables explain their variance in a moderately high manner. Therefore, we can conclude that there is a bidirectional relationship between employee engagement and organizational commitment.

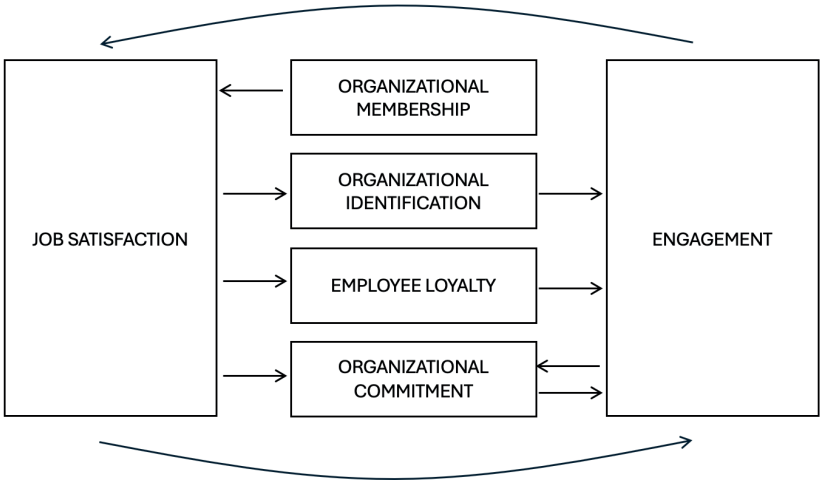

Figure 4. **Revised research model assumptions based on the analysis results**

Source: own study

Based on the analyzed data and the obtained results, the research model (Figure 4) assumptions were modified to incorporate new relationships and adjustments in the mediation structure, which allowed for a more precise representation of the complex interactions between job satisfaction, employee engagement, and the mediating factors.

5. Discussion of results

Job satisfaction explained 46.4% of the variance in work engagement ($R^2 = 0.464$), while engagement explained 68.1% of the variance in satisfaction ($R^2 = 0.681$). Organizational membership predicted job satisfaction at $R^2 = 0.501$. In mediation models, identification, loyalty, and commitment accounted for 34–41% of the total effect of satisfaction on engagement (total effect = 0.912), confirming their relevance as mediators.

The analysis of employee satisfaction components revealed that the level of satisfaction is influenced by several factors, such as professional development, salary, task characteristics, and interpersonal relationships within the organization. The results show that 88.4% of employees believe the organization supports their professional development, though some may feel overlooked. Therefore, organizations should ensure broad access to training, mentoring, and clear career advancement paths. Satisfaction with salary is high, as 91.2% of employees are satisfied with their salary. However, 24.4% of respondents are dissatisfied with the benefits package, suggesting that organizations should reassess the competitiveness of the benefits offered. The majority of employees (83.1%) find their work interesting and developmental, while 16.9% feel that their tasks are not engaging enough. Therefore, organizations should review the task structure and provide opportunities for employees to engage in more diverse projects. 65.4% of employees maintain good relationships with colleagues, but it would be beneficial to consider team-building activities and strengthening organizational culture to improve the workplace atmosphere.

Employee engagement was assessed in terms of work absorption, dedication, and vigor level. 27.1% of respondents report that time flies during work, suggesting engaging work. However, 22.4% report difficulty with concentration, which may indicate the need to improve the work environment. 26.7% perceive their work as meaningful, while 13.1% do not feel inspired. Organizations should better match tasks with employees' competencies and interests. 57.4% act ethically, but 13.4% feel they lack the energy to perform their duties effectively, which may be due to overload or low motivation. It is important to monitor employee workload to maintain engagement levels.

Employee loyalty is crucial for long-term engagement. 31.3% of employees are willing to recommend their company as a good place to work, indicating a positive attitude.

However, 9.3% do not share this belief, suggesting that some employees do not see value in their organization. 10.8% are not willing to make extra efforts, such as working longer hours, which may result from low satisfaction. On the other hand, 25.5% express a willingness to sacrifice for the company, and 30.4% feel proud to be part of the organization. Organizations should invest in organizational culture to strengthen loyalty and engagement.

The analysis of organizational membership shows that 29.4% of employees would like to spend the rest of their careers with the company, but 18.8% do not feel the same need. This indicates that some employees may not be fully connected to the organization. 26.0% feel guilty if they leave the company, indicating emotional attachment. Conversely, 17.6% do not see alternative job options, which may suggest that they stay due to lack of opportunities, not because of attachment. Organizations should focus on strengthening motivational programs to improve retention and build long-term relationships with employees. Identification with the company is key for engagement and loyalty. 34.8% of employees believe their values align with those of the company, which strengthens their connection to the organization. However, 26.9% feel underappreciated. Organizations can improve this by increasing transparency and better responding to employee needs.

To improve employee engagement, organizations should focus on improving employee satisfaction through the following strategies:

- providing attractive working conditions – both in terms of compensation and job stability;
- fostering organizational culture – enhancing fairness and transparency in decision-making processes;
- managerial support and team relationships – good contact with supervisors and colleagues positively influences comfort at work;
- ensuring professional development opportunities – training, mentoring programs, and career advancement paths increase satisfaction;
- increasing interaction and collaboration among employees, which strengthens their emotional connection to the company;
- strengthening loyalty through reward and recognition systems, making employees feel part of the organization;
- building a strong organizational identity – clearly defining and communicating the company's mission, vision, and values;
- employer branding activities – enhancing the company's image as an attractive place to work;
- strengthening employee-organization relationships – engaging employees in company events, ambassador programs, and social initiatives related to the organization;

- transparency and fairness in employee relations – ensuring fair compensation, promotions, and performance evaluations;
- benefit programs and loyalty rewards – bonuses for long tenure, motivational systems, and internal promotion opportunities;
- creating an atmosphere of stability – ensuring employees feel secure in their jobs and supported by the company;
- engaging employees in decision-making processes – providing them with more autonomy and influence over company operations.

6. Limitations and future research

Conducting research in different industries and cultural contexts would help to verify whether the obtained results are universal or dependent on organizational specificity. Such an analysis would enable a better understanding of the relationship between job satisfaction and engagement in various professional environments. Further studies should also consider additional potential mediators, such as organizational culture, management style, or career development opportunities, as these factors may significantly influence employee engagement. Additionally, examining the impact of external factors, such as economic conditions, job market situation, or evolving management trends, could enrich the current research models, providing a more comprehensive picture of the dynamics of the relationships under study.

The study was conducted on a specific group of employees, which is a significant limitation in terms of generalizing the results. A limited sample size may affect the ability to generalize the conclusions to other sectors, industries, or populations, especially if the sample group differs in terms of organizational structure, work culture, or employment characteristics. Data were collected through self-reported surveys, which can lead to response biases. There is a risk that respondents provided answers aligned with social expectations or subjectively exaggerated or minimized certain aspects of their experience.

Another limitation is the correlational nature of the study. The methodology used allows for the identification of relationships between variables but does not allow for definitive conclusions about causal relationships. As such, while the results indicate the existence of relationships, they do not enable precise determination of which variables are the cause and which are the effect.

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While preparing this work, the authors did not use any tool/service

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