

# THE MEDIATING ROLE OF CO-CREATION AND EMPLOYEE ENGAGEMENT, AND THE MODERATING ROLE OF AUTHENTIC LEADERSHIP IN ENHANCING INTERNAL SERVICE QUALITY OF THE PUBLIC SECTOR

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**ABSTRACT:** This research aims to examine the mediating roles of co-creation and employee engagement, as well as the moderating role of authentic leadership, in improving internal service quality within the public sector. Additionally, it explores how internal marketing influences co-creation and employee engagement and their subsequent impact on internal service quality. Utilizing a quantitative research design, data were collected through questionnaires and interviews with 409 civil servants from the Indonesia Provincial Regional Personnel Agency (BKD). SEM analysis using AMOS showed that co-creation mediates the link between internal marketing and employee engagement, and employee engagement mediates the link between internal marketing and internal service quality. Furthermore, authentic leadership moderates the effect of co-creation on employee engagement, indicating that stronger authentic leadership enhances the value of co-creation, thereby improving internal service quality. These findings offer practical insights for the public sector in designing programs that incorporate authentic leadership to enhance service quality, emphasizing the need to improve self-awareness and relational transparency among employees/civil servants. The study contributes to the self-determination theory by integrating it with internal marketing concepts to advance understanding of co-creation, employee engagement, and internal service quality.

**Keywords:** Co-Creation, Authentic Leadership, Internal Marketing, Employee Engagement, Service Quality.

## 1. Introduction

Co-creation is crucial for generating service value and improving service quality, thereby enhancing customer satisfaction and organizational performance in both business and public sectors (Brandsen, Steen, & Verschuere, 2018). Despite its importance, research on the value of co-creation in the public sector, particularly concerning internal service quality, remains underexplored (Chathoth et al., 2020). Thus, investigating co-creation in public sectors is essential for fostering public service value and determining innovation outcomes. According to Ansell and Torfing (2021), co-creation involves multiple stakeholders and collaborative efforts aimed at addressing issues through resource exchanges, joint learning, innovation, and adaptation to sustainability. Consequently, co-creation can significantly enhance employee engagement, supporting the achievement of organizational vision and mission.

Employee engagement is a critical factor for investigation in the public sector due to its significant impact on employee performance and the enhancement of public service satisfaction (Harter, Schmidt, & Hayes, 2002). Additionally, improving employee engagement is essential for advancing public service quality, as suggested by Puspa and Sagala (2018). Service quality, as defined by Berry and Parasuraman (1991), is influenced by

the discrepancy between customer perceptions of the actual service received (perceived service) and their expectations (expected service). When perceived service meets or exceeds expectations, satisfaction is achieved; otherwise, dissatisfaction occurs. Consequently, internal marketing plays a crucial role in organizational service quality. Enhancing internal marketing is therefore vital for improving service quality (Qiu, Boukis, & Storey, 2022).

Conversely, internal marketing has the potential to actively enhance employee engagement and foster value creation among employees as internal customers, in line with the principles of service-dominant logic (Qiu et al., 2022). Moreover, Huang (2020) suggests that examining the moderating role of organizational leadership is essential for strengthening the value of co-creation in employee engagement. Authentic leadership, a notable leadership style (Luthans & Avolio, 2003), can bolster employee engagement and co-creation efforts in developing new service values. Although prior literature found no significant correlation between authentic leadership and engagement, optimism, or self-efficacy in the context of co-creation, research specifically focusing on co-creation within the public sector remains lacking. Consequently, Ansell and Torfing (2021) advocate for further research into co-creation to advance comprehensive theories, particularly for analysing innovative public service quality and governance.

In the public sector, employees, as key stakeholders, can achieve greater satisfaction when they benefit from effective internal marketing programs implemented by management. This optimal engagement, as posited by social exchange theory (Blau, 1964), enhances employees' performance and contributes to the development of internal service quality. Management must recognize employees as vital assets to the organization, thereby enabling them, as internal customers, to deliver high-quality service through their engagement (Ballantyne, 2003). In the context of the Indonesian public sector, as outlined in the Strategic Plan of the Indonesia State Civil Service Agency for 2020–2024, service quality among civil servants has been inadequately managed. To improve service quality, it is essential to enhance employee engagement, which is influenced by internal marketing efforts and contributes to the development of co-creation values among employees. Effective co-creation involves innovative job performance through collective and collaborative efforts, thereby advancing internal service quality, which is impacted by internal marketing elements (Lengnick-Hall, 1996).

This research analyses how co-creation and employee engagement mediate, and authentic leadership moderates, the impact of internal marketing on internal service quality.

## 2. Literature Review

To achieve the objectives of this study and test the hypothesis, this research employs Self-Determination Theory integrated with Internal Marketing to examine human motivation and personality. This approach underscores the significance of human resources for personal development and self-regulatory behaviour (Ryan, Kuhl, & Deci, 1997). Self-Determination Theory, which focuses on motivation and personality, provides a framework for understanding individuals' freedom to make meaningful choices in their lives. Deci and Ryan (2000) define self-determination as the individual's capacity to select from various options and make decisions toward achieving goals. It involves making choices that satisfy needs for autonomy, competence, and social relationships, thereby enabling optimal functioning. Aspects of self-determination can predict optimal human functioning across various life domains (Van den Broeck et al., 2010), including the development of co-creation, employee engagement, and authentic leadership to enhance internal service quality.

### 2.1. Internal Marketing and Co-Creation

Santos-Vijande, Álvarez and Rodríguez (2012) demonstrate that internal marketing within hotel companies promotes employee involvement in co-creation, ultimately aiming to enhance consumer satisfaction. Additionally, Grönroos (2008) identifies internal customers, specifically employees, as crucial contributors to value co-creation. Co-creation introduces new dynamics in the relationship between companies and customers, as customers become involved in the production and distribution of value. By participating in various stages of the value chain, customers effectively become "employees" of a segment of the organization. Early conceptualizations of co-creation emphasized customer involvement in the production and delivery of products or services, and their contribution to service quality (Lengnick-Hall, 1996). Co-creation is a collaborative process where stakeholders jointly create value from products and brands (Merz, Zarantonello, & Grappi, 2018), and involves interactive systems and organizational structuring (Ramaswamy & Ozcan, 2018). Hence, employees are pivotal in generating co-creation value. Based on this understanding, the following hypothesis can be proposed:

H1: Internal marketing has a positive effect on Co-creation.

### 2.2. Internal Marketing and Employee Engagement

Internal marketing has its origins in the 1970s, focusing on the idea that for an organization to ensure customer satisfaction, it must first cultivate employees as its primary customers (Ahmed & Rafiq, 2002). Braimah (2016) defines internal marketing as the practice of addressing employees and customers with similar considerations through proactive programs aimed at achieving organizational objectives. This approach posits that employees constitute a market within the organization—one that needs to be informed, studied, developed, and motivated to meet organizational goals. Huang (2020) identified internal marketing dimensions as Training, Internal Communication, Reward System, Internal Marketing Research, Recruitment, Career Development, and Promotion. Nart et al. (2019) emphasized that Internal Communication, Training, and Marketing Research enhance employee engagement and satisfaction. Khan (2013) defined employee engagement as a state in which organizational members align themselves with their work, demonstrating physical, cognitive, and emotional investment in their performance. Research by Sarangal and Nargotra (2017) revealed

that internal marketing significantly impacts employee engagement. This interaction involves aligning product or work development strategies with employee needs to enhance engagement and organizational commitment. Based on this understanding, the following hypothesis can be proposed:

H2: Internal marketing has a positive effect on employee engagement

### 2.3. Co-Creation and Employee Engagement

Anitha (2014) found that co-creation significantly boosts employee engagement, which is crucial for staff retention and full role investment. Anitha (2014) described employee engagement as the degree of commitment and involvement that influences organizational values and effectiveness. Brunetto et al. (2013) characterized it as a measure of employees' emotional and intellectual dedication to their organization. Factors that can hinder engagement include job insecurity, perceived injustice, lack of autonomy, excessive stress, poor management, bullying, and insufficient rest (Saks, 2006). Additionally, Mahadika (2018) found a significant relationship between co-creation and employee engagement, indicating that co-creation positively affects engagement in a Batam-based company. Based on this description, the hypothesis can be formulated as:

H3: Co-creation has a positive effect on Employee Engagement.

### 2.4. Employee Engagement and Service Quality

Harter et al. (2002) indicated that employee engagement significantly affects the quality of public services. This finding is corroborated by Popli and Rizvi (2015), who also demonstrated that enhancing employee engagement is essential for improving public service quality. Engaged employees exhibit higher productivity, greater customer focus, increased safety, and a lower likelihood of leaving the organization. They are more aligned with organizational goals compared to disengaged employees, who are prone to disruptive behaviour. Previous research underscores that employee engagement is critical for organizations, serving as a foundational element akin to a pillar in a building, essential for maintaining organizational stability and strength.

Kasmir (2017) defines service quality as the efforts by individuals or organizations aimed at satisfying customers or employees. Service quality tends to accrue benefits over time, thus necessitating that service organizations identify and implement effective

strategies to ensure high-quality service delivery. Engaged employees are likely to provide exceptional service, making employee engagement a critical factor in enhancing service quality. Based on this understanding, the following hypothesis can be proposed:

H4: Employee engagement has a positive effect on Internal service quality.

### 2.5. The Mediating Role of Co-Creation and Employee Engagement

Ansell and Torfing (2021) argue that research into Co-creation will advance the development of comprehensive theoretical frameworks and new research initiatives aimed at conceptualizing various forms of Co-creation. This includes analysing collaborative problem-solving processes within networks and partnerships to drive innovative public value and evolving public governance practices. Accordingly, this study will utilize Co-creation as a mediating variable. Co-creation involves stakeholders and organizations collaboratively creating value from products, services, or brands (Merz et al., 2018). According to Baron and Kenny (1986), mediation is effective when the independent variable significantly impacts the mediator, and the mediator substantially affects the dependent variable. In line with this, Simpson, Robertson and White (2020) found that Co-creation can enhance organizational engagement, suggesting that employee involvement in Co-creation can boost employee engagement, corroborated by Mahadika (2018). Additionally, Saleem and Iglesias (2016) found that internal stakeholders, including those involved in internal marketing activities, can foster Co-creation. These findings imply that Co-creation may mediate the relationship between Internal Marketing and Employee Engagement. Markovic and Bagherzadeh (2018) further suggest examining Co-creation's mediating role to achieve innovative organizational performance. Furthermore, a prior study demonstrated that Internal Marketing significantly impacts employee engagement, supporting the findings of Sarangal and Nargotra (2017). Adepoju et al. (2024) also support the view that Employee Engagement enhances internal service quality. These findings collectively indicate that Employee Engagement may mediate the effect of Internal Marketing on Internal Service Quality. Based on these descriptions, the following hypothesis can be formulated:

H5: Co-creation mediates the influence of Internal Marketing on Employee Engagement

H6: Employee Engagement mediates the influence of Internal Marketing on Internal Service Quality

**2.6. The Moderating Role of Authentic Leadership**

Authentic leadership, first conceptualized in the late 1970s and further developed by Luthans and Avolio in 2003, has gained prominence as a strengths-based approach to modern leadership challenges (Avolio & Gardner, 2005). Authentic leaders are known for their confidence, optimism, resilience, and high moral character, which fosters trust and integrity among their followers. Carlisle et al. (2013) identified the CEO's leadership style, including authentic leadership, as a critical factor in fostering Co-creation. Conversely, Avolio et al. (2004) suggested that authentic leadership enhances employee engagement, although Hayuningtyas and

Helmi (2016) found no significant effect of authentic leadership on employee engagement. Additionally, Eid et al. (2012) indicated that authentic leadership contributes to a healthy work environment and job security, thereby potentially strengthening employee engagement. These findings suggest that authentic leadership may moderate the relationship between Co-creation and employee engagement. Thus, the hypothesis for this research is:

H7: Authentic leadership moderates the influence of internal marketing on employee engagement.

Based on the hypotheses outlined, the proposed research model is as follows:

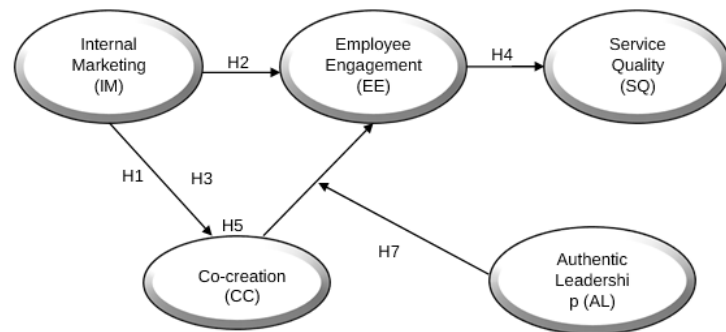


Figure 1: Research Model.

**3. Research Methods**

This study employs a quantitative research design involving the distribution of questionnaires and interviews with 409 civil servants from the Indonesian Provincial Regional Personnel Agency (BKD). The sample was selected using a simple random sampling technique from ten Indonesian provinces, categorized into Green, Yellow, and Red service quality zones. This sample size aligns with the study's objectives. Variable measurements were adapted from existing research. Internal Marketing was measured using a 12-item scale developed by Grönroos (2000), with responses ranging from strongly disagree to strongly agree on a Likert scale of 1-5. Co-creation was assessed with 17 questions based on Grönroos (2012). Employee Engagement was evaluated using a 9-item scale from a previous study on a Likert scale of 1-5. Authentic Leadership was measured with a 7-item scale by Avolio et al. (2004), also using a Likert scale of 1-5. Internal Service Quality was assessed with 9 questions based on Kasmir (2017), utilizing the same Likert scale.

Structural equation modelling (SEM) data analysis was

conducted using the AMOS 23.0 statistical application to estimate and test causal relationships. The SEM analysis employed a covariance-based approach (CB-SEM) and utilized the Maximum Likelihood (ML) function (Hair et al., 2019). Validity testing involved evaluating each instrument and its indicators based on predefined criteria. An indicator is considered valid if its loading factor is  $\geq 0.50$  (Hair et al., 2019). Additionally, validity was assessed through average variance extracted (AVE) to determine discriminant validity. For discriminant validity, the AVE values for all constructs must be  $\geq 0.50$ . All measurement variables met the validity criteria, as indicated by AVE values exceeding 0.50. The reliability of the research instruments was assessed using Cronbach's alpha and construct reliability, calculated with the AMOS 23.0 program. Both Cronbach's alpha coefficient and construct reliability are required to be at least 0.70 to ensure a satisfactory level of reliability for the questionnaire (Hair et al., 2019). Prior to generating the structural model with CB-SEM, the goodness of fit for the model was evaluated. AMOS CB-SEM assesses model fit using indices such as CFI, GFI,

AGFI, TLI, RMSEA, and P-value, as well as sample size requirements including CMIN/DF, PGFI, and PNFI, with a recommended sample size greater than 400. The model's fit was confirmed as meeting the criteria for goodness of fit.

**4. Results and Discussion**

The respondents' characteristics reveal that 58% of the sample are male. Most respondents (98%) have over 10 years of service. The distribution of staff positions is as follows: 65% hold staff positions, 5% are at Echelon IV, 10% are at Echelon III, and 20%

occupy functional positions.

**4.1. Validity and Reliability Test**

In this study, validity was assessed through CFA, with factor loadings above 0.5 considered valid (see Table 1). The AVE values, as shown in Table 1, indicate that the measurement variables are valid, with AVE values of  $\geq 0.50$ . Additionally, the CR values meet the reliability threshold of  $\geq 0.70$ . Thus, the five variables in this research demonstrate both validity and reliability, making them suitable for subsequent hypothesis testing.

Table 1: Results of Confirmatory Factor Analysis.

Variable	Item	Loading Factor	AVE	CR	Cronbach Alpha
Internal Marketing (IM)	IM1	0.8730	0,9737	0,9789	0,9780
	IM2	0.8113			
	IM3	0.8513			
	IM4	0.7780			
	IM5	0.8398			
	IM6	0.7497			
	IM7	0.7756			
	IM8	0.7336			
	IM9	0.8738			
	IM10	0.7576			
	IM11	0.7917			
	IM12	0.7073			
Co-Creation (CC)	CC1	0.7671	0,9681	0,9760	0,9710
	CC2	0.5996			
	CC3	0.7658			
	CC4	0.7558			
	CC5	0.7718			
	CC6	0.7893			
	CC7	0.7326			
	CC8	0.7972			
	CC9	0.7985			
	CC10	0.7628			
	CC11	0.7741			
	CC12	0.7237			
	CC13	0.7797			
	CC14	0.6073			
Internal Service Quality (SQ)	SQ1	0.6640	0.8962	0.9314	0,9580
	SQ2	0.8673			
	SQ3	0.5762			
	SQ4	0.5222			
	SQ5	0.5226			
	SQ6	0.6094			
	SQ7	0.5394			
	SQ8	0.7483			
Employee Engagement (EE)	EE1	0.7253	0,9411	0,9572	0,8220
	EE2	0.7525			
	EE3	0.7477			
	EE4	0.5517			
	EE5	0.7388			
	EE6	0.7592			
	EE7	0.7781			
	EE8	0.7193			
	EE9	0.6492			
Authentic Leadership (AL)	AL1	0.7226	0,9579	0,9673	0,7780
	AL2	0.9126			
	AL3	0.8398			
	AL4	0.7689			
	AL5	0.6867			
	AL6	0.7074			
	AL7	0.8553			
	AL8	0.7230			

**4.2. Fit Model**

The fit model results presented in Table 2, analysed using maximum likelihood estimation in AMOS, indicate that

the model meets the criteria for a good fit across several indices: Chi-square, p-value, GFI, RMR, RMSEA, TLI, NFI, AGFI, RFI, CFI, PGFI, and PNFI.

Table 2: Goodness of Fit Index Results.

Fit Measurement	Cut Off Criteria	Fit Model Results	Decision
Chi-Square	Chi-square > 3df	715.4 > 3df	Good Fit
GFI	GFI ≥ 0.9	0.9280	Good Fit
RMR	RMR ≤ 0.5	0.2012	Good Fit
RMSEA	RMSEA ≤ 0.08	0.0104	Good Fit
TLI	TLI ≥ 0.9	0.9880	Good Fit
NFI	NFI ≥ 0.9	0.9670	Good Fit
AGFI	AGFI ≤ 0.9	0.8960	Good Fit
CFI	CFI ≥ 0.9	0.9985	Good Fit
PNFI	PNFI ≤ 0.9	0.7000	Good Fit

Source: Output AMOS 23.0, 2024

**4.3. Hypothesis Testing Results**

A significant effect is indicated if the significance value is below 0.05 and the CR exceeds the t-table value

of 1.96. The results of direct hypothesis testing are presented in Table 3, while the mediation variable test results are detailed in Table 4.

Table 3: Hypothesis Testing Results, Based on the Direct Effects.

Hypothesis	Estimate	t-Statistic/C.R	P Value	Hypothesis Decision
Internal Marketing Effect on Employee Engagement	0.2965	2.6359	0.0000	Supported
Internal Marketing Effect on Co-Creation	0.7037	17.3334	0.0000	Supported
Co-Creation Effect on Employee Engagement	0.7170	5.4160	0.0000	Supported
Employee Engagement Effect on Internal Service Quality	0.4808	9.4250	0.0000	Supported

Source: Output AMOS 23.0, 2024

Table 3 demonstrates that Internal Marketing has a significant positive effect on Employee Engagement, as indicated by a probability value of 0.000 ( $p < 0.05$ ), a standardized regression weight of 0.2965, and a CR of 2.6359, which exceeds the t-table value of 1.96. This suggests that improvements in Internal Marketing will significantly enhance Employee Engagement, corroborating the findings of Sarangal and Nargotra (2017). Internal Marketing involves treating employees as internal customers, necessitating organizational efforts to meet their needs and expectations to achieve organizational goals (Berry & Parasuraman, 1991). Therefore, it is crucial for the public sector to implement comprehensive Internal Marketing programs. This, in turn, contributes to increased employee productivity and performance, thereby improving Internal Service Quality, as supported by Osei et al. (2022).

The Market Training and Education component of Internal Marketing received the highest average score of 4.89 (63.28%) among the elements evaluated,

indicating its strong impact on enhancing employee knowledge, skills, self-confidence, and motivation, thereby fostering high Employee Engagement. Conversely, Employee Involvement in External Communication scored the lowest at 3.12, suggesting a need for improved efforts in this area, such as implementing fair performance assessments, reward systems, and career development paths. The second hypothesis confirms that Internal Marketing significantly impacts Co-creation, with a probability value of 0.000 ( $p < 0.05$ ), a standardized regression weight of 0.7037, and a t-statistic/C.R. of 17.3334 (greater than 1.96). This finding aligns with Saleem and Iglesias (2016), indicating that Internal Marketing effectively enhances Co-creation.

The implementation of Internal Marketing facilitates the professional development of employees, enhancing their competence and ultimately increasing Co-creation value (Brown et al., 2024; González Santa Cruz et al., 2020; Merz et al., 2018). This, in turn, fosters Employee Engagement (Boukis & Kabadayi,

2020) and improves internal service quality. According to respondent feedback, Market Training and Education received the highest score of 4.49 (63.28%) for its impact on Co-creation. This indicates that these programs significantly enhance employees' knowledge and skills, enabling more active participation in Co-creation and leading to greater innovation and Co-creation value. Conversely, Employee Involvement in External Communication scored the lowest at 3.12, suggesting that management should improve this area. Enhancing Employee Involvement through targeted training and development programs can boost Co-creation values, drive higher motivation, and foster innovative and collaborative services, thereby improving Employee Engagement and Internal Service Quality.

The results of the third hypothesis test indicate that Co-creation has a significant positive effect on Employee Engagement, as evidenced by a probability value of 0.000 ( $p < 0.05$ ), a standardized regression weight of 0.7170, and a t statistic/C.R. of 5.4160, which exceeds 1.96. This suggests that increased Co-creation enhances Employee Engagement, supporting the findings of Simpson et al. (2020). Co-creation can motivate employees, improving their engagement and, consequently, the organization's performance. According to descriptive statistics, the element of Co-creation with the highest impact on Employee Engagement is Information Seeking, with an average score of 4.84 (68.46%). Actively seeking information enhances employees' confidence and job performance. Conversely, Information Sharing received the lowest score of 3.25, indicating challenges in fostering Co-creation and employee

engagement. To address this, organizations should promote a culture of Information Sharing through Communication and Collaboration Teamwork training and establish metrics for evaluating Information Sharing performance. Enhancing collaborative and communicative practices can boost Co-creation and, subsequently, Employee Engagement, as noted by prior study.

The results indicate that Employee Engagement significantly positively influences Internal Service Quality, with a probability value of 0.000 ( $p < 0.05$ ), a standardized regression weight of 0.4808, and a t statistic/C.R. of 9.4250, which exceeds 1.96. This finding suggests that higher Employee Engagement markedly enhances Internal Service Quality. These results align with Adepoju et al. (2024), demonstrating that engaged employees are more likely to enjoy their work and contribute to improved Internal Service Quality. Among the elements of Employee Engagement—Absorption, Vigor, and Dedication—Absorption achieves the highest average score of 4.67, or approximately 64.80%. This indicates that a high level of engagement and full attention toward work significantly enhances service quality. Conversely, Dedication scores the lowest at 3.36, suggesting that lower dedication correlates with reduced service quality. To improve Dedication and Vigor, it is essential to align employees with the organization's vision and mission, integrate these values into Employee Engagement practices, foster a collaborative culture, and enhance interpersonal relationships between employees and management. Table 4 presents the statistical results for the mediation variables.

Table 4: Results of the Mediating Variable Test.

Hypothesis	Standardized Direct Effects	Standardized Indirect Effects	Total Effects	Hypothesis Decision
Co-Creation Mediates Internal Marketing Effect on Employee Engagement	0.7170	0.5045	1.2215	Supported
Employee Engagement Mediates Internal Marketing Effect on Internal Service Quality	0.4808	0.1425	0.6233	Supported

Source: Output AMOS 23.0, 2024

Co-creation significantly mediates the link between Internal Marketing and Employee Engagement (effect value: 1.2215), while Employee Engagement mediates the impact of Internal Marketing on Internal Service Quality (effect value: 0.6233). Both mediation effects are statistically significant, with one and two-tailed probabilities less than 0.05. The results support the

mediation role of Co-creation, as Internal Marketing significantly influences both Co-creation and Employee Engagement, and Co-creation positively affects Employee Engagement. This aligns with Barron and Kenny's (1986) criteria and Markovic and Bagherzadeh's (2018) recommendations. Additionally, Employee Engagement significantly impacts Internal Service

Quality, with Employee Engagement fully mediating the effect of Internal Marketing on Internal Service Quality. Therefore, Co-creation partially mediates the effect of Internal Marketing on Employee Engagement. To enhance Internal Service Quality, management should focus on strengthening information-seeking

and responsible behaviour within Co-creation and Employee Engagement programs, as suggested by Zhang, Zhu and Wang (2022). The effect of Authentic Leadership in moderating the relationship between Co-creation and Employee Engagement is detailed in Table 5.

Table 5: Results of Moderating Variable Hypothesis Testing.

Hypothesis	Estimate	t-Statistic/C.R	P Value	Hypothesis Decision
Authentic Leadership Moderates Co-Creation Effect on Employee Engagement	0.032	7.444	0.000	Supported

Source: Output AMOS 23.0, 2024

Table 5 shows that Authentic Leadership significantly moderates the relationship between Co-creation and Employee Engagement (t-statistic = 7.449, p-value = 0.0000). This suggests that stronger Authentic Leadership enhances Co-creation's positive effect on Employee Engagement, aligning with Avolio et al. (2004). Based on the descriptive analysis, Self-Awareness emerges as the most critical component of Authentic Leadership for enhancing the effect of Co-Creation on Employee Engagement, accounting for 78.24% compared to other components such as Relational Transparency, Balanced Processing, and Internalized Moral Perspective. Conversely, Relational Transparency shows the lowest impact. Insufficient Relational Transparency between leaders and employees may impede the Co-Creation process and diminish Employee Engagement. Consequently, it is recommended that organizational management implement Leadership Skills training that emphasizes the development of Self-Awareness, Balanced Processing, and Internalized Moral Perspective across all organizational levels.

### 5. Conclusions, Limitations, and Future Research

Internal Marketing has a significant positive impact on Employee Engagement, indicating that enhancing Internal Marketing within the public sector substantially improves Employee Engagement. However, the effect size of 29.65% is lower compared to the 70.37% effect of Internal Marketing on Co-creation. The discrepancy suggests that lower responses in Internal Marketing components may affect Employee Engagement; thus, organizations should enhance Internal Marketing. Similarly, Internal Marketing significantly influences Co-creation with an estimated effect size of 70.37% in the context of Indonesia's Provincial Regional Personnel Agency (BKD). Despite this, the effect of Co-creation on Employee Engagement, estimated at 71.70%, is

higher. This suggests that enhancing Internal Marketing can substantially increase Co-creation. The primary drivers of this effect are Market Training and Education. Nonetheless, some components, particularly Employee Involvement in External Communication, show lower response rates, indicating that Internal Marketing programs are not yet fully optimized. Consequently, organizations should focus on using Internal Marketing to foster greater employee involvement in external communication and collaborative Co-creation efforts.

Co-creation exerts a significant and positive effect on Employee Engagement within the public sector, with an estimated effect size of 71.70%, the highest among the hypotheses tested. This underscores the critical role of Co-creation in enhancing Employee Engagement. Consequently, organizations should focus on improving Co-creation practices to bolster employee engagement, highlighting the importance of collaboration in augmenting employee performance and satisfaction. Similarly, Employee Engagement has a positive and significant impact on Internal Service Quality, with an estimated effect size of 48.08%. Although this effect size is lower compared to other hypotheses, it still demonstrates that increased Employee Engagement substantially enhances Internal Service Quality. The relatively lower impact may be attributed to dimensions such as Vigour and Dedication, in contrast to Absorption. Therefore, organizations should prioritize strategies to enhance Employee Engagement, as it is a key driver of improved service quality.

Co-creation significantly mediates the link between Internal Marketing and Employee Engagement (total effect = 1.2215). Employee Engagement also mediates the relationship between Internal Marketing and Internal Service Quality (total effect = 0.6233), indicating that effective Co-creation boosts Employee Engagement and Internal Marketing outcomes.

Authentic Leadership moderates Co-creation's impact on Employee Engagement, with Self-awareness being key. Improvements in Relational Transparency are needed. Organizations should focus on training in Leadership Skills and Internal Marketing to enhance collaboration and Co-creation. However, the study's focus on BKD may limit generalizability. Future research should examine Internal Marketing's effects in various public sector contexts.

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