International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 09 Issue 07 July 2026
DOI: 10.47191/ijcsrr/V9-i7-03, Impact Factor: 8.048
IJCSRR @ 2026
www.ijcsrr.org

Enhancing Customer Satisfaction through Talent Management and Innovative Work Behavior: The Mediating Role of Operational Performance in Reducing Lightning-Induced Claims in a Telecommunication Tower Company

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ABSTRACT: This study examines the effect of talent management and innovative work behavior on customer satisfaction through operational performance in reducing lightning-induced claims at XYZ Company in Area 1 Sumatra. A quantitative approach with a causal and cross-sectional research design was employed. The population consisted of 11,260 operational sites, from which 400 sites were selected using the Slovin formula. The unit of analysis was the operational site, while the units of observation included managerial representatives and customer representatives. Data were collected using a structured questionnaire measured on a five-point Likert scale and analyzed using Partial Least Squares Structural Equation Modeling (SEM-PLS). The results show that talent management has a positive and significant effect on operational performance and innovative work behavior. Operational performance also has a positive and significant effect on customer satisfaction. However, innovative work behavior does not directly affect operational performance or customer satisfaction. The direct effect of talent management on customer satisfaction is significant but negative, indicating that internal talent practices do not automatically improve customer satisfaction unless they are translated into better operational outcomes. Furthermore, operational performance significantly mediates the relationship between talent management, innovative work behavior, and customer satisfaction. These findings emphasize that customer satisfaction in lightning-induced claim management is more effectively improved through reliable operational performance supported by strong talent management and structured innovation practices.

KEYWORDS: customer satisfaction, innovative work behavior, lightning-induced claims, operational performance, SEM-PLS, talent management.

INTRODUCTION

The rapid expansion of the digital economy has made telecommunication infrastructure increasingly important for supporting business activities, public services, online education, digital financial transactions, and daily communication. Digital connectivity has become essential for how governments deliver services, teachers reach students, businesses operate, and people access economic opportunities (World Bank, 2025). In Indonesia, digital technologies have increasingly transformed economic and social activities, making the country one of the largest and fastest-growing digital economies in Southeast Asia (World Bank, 2021). In line with this trend, the information and communication sector has shown strong resilience and consistent growth, contributing 4.34% to Indonesia's GDP in 2024 and growing by 7.57% in the same year (BPS, 2025). As customer dependence on digital connectivity increases, the reliability of telecommunication infrastructure becomes a critical factor in maintaining service quality and customer satisfaction, as network quality and service reliability have been shown to influence user satisfaction in telecommunication services (Finley et al., 2017).

For telecommunication tower companies, operational reliability is not only a technical issue but also a direct reflection of service performance. Resilient telecommunication infrastructure is expected to maintain an acceptable level of service when facing equipment failures, natural hazards, and other disruptions (World Bank, 2024). In Area 1 Sumatra, XYZ Company faces a serious operational challenge due to the high frequency of lightning strikes, particularly because several parts of Sumatra are identified as areas with high cloud-to-ground lightning activity (BMKG, 2025). Lightning-induced disturbances may damage tower equipment, disrupt network stability, increase downtime, and generate customer claims. Therefore, reducing lightning-induced claims requires not only technical maintenance but also stronger organizational capability and more adaptive operational practices.

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Company data show that a significant proportion of towers in Area 1 Sumatra are located in lightning-prone red-zone areas. At the same time, customer satisfaction indicators have shown a declining trend, as reflected in the decrease of the Net Promoter Score from 2021 to 2024. This decline suggests that operational disruptions, response speed, maintenance consistency, and claim handling may have affected customer experience. These conditions highlight the need for a more integrated approach to improve operational performance and restore customer confidence.

Talent management is one of the key organizational capabilities that can support operational improvement. It refers to the strategic practices used by organizations to recruit, develop, and retain employees with the competencies required to achieve organizational goals. Previous studies have shown that effective talent management can improve employee productivity, operational efficiency, innovation, and organizational performance (Bibi, 2018; Hongal & Kinange, 2020; Koushki et al., 2025). In the context of lightning risk management, talent management is particularly important because field employees must possess specific technical skills, risk awareness, and the ability to respond quickly to operational disturbances.

In addition to talent management, innovative work behavior plays an important role in strengthening operational performance. Innovative work behavior reflects employees' ability to generate, promote, and implement new ideas to improve work processes, service quality, and problem-solving effectiveness. In high-risk operational environments, innovation allows employees to develop practical solutions, such as improving grounding systems, applying digital monitoring, or modifying maintenance procedures to reduce the impact of lightning-induced disturbances. Prior research indicates that innovation contributes to operational efficiency, organizational competitiveness, and sustainable performance (Luna-Arocas, 2023; Thakur et al., 2022; Zhou et al., 2019).

Talent management may also encourage innovative work behavior. Employees who receive proper training, career development opportunities, and organizational support are more likely to feel valued and motivated to propose new ideas. Studies have found that strong talent management practices can stimulate creativity and innovation among employees, thereby enhancing organizational adaptability (Al-Azzam et al., 2023; Luna-Arocas, 2023; Min et al., 2025). In this study, talent management is therefore expected not only to improve operational performance directly but also to strengthen employees' innovative behavior.

Operational performance is positioned as a central mechanism in this study because customer satisfaction in telecommunication infrastructure services is strongly influenced by service reliability, response speed, operational efficiency, and the ability to minimize disruptions. When operational performance improves, customers are more likely to experience stable service, faster claim resolution, and better overall service quality. Previous studies have shown that sustainable operational performance and service quality are positively associated with customer satisfaction and long-term customer relationships (Alsaqer et al., 2024; Khalufi et al., 2025; Morgan & Rego, 2006).

From a strategic management perspective, this study is positioned at the functional strategy level. In general, strategy can be classified into three levels: corporate-level strategy, business-level strategy, and functional-level strategy (Pasaribu et al., 2016). While corporate-level strategy concerns the overall direction of the organization and business-level strategy focuses on competitive positioning, functional-level strategy emphasizes how specific organizational functions support business objectives. The variables examined in this study reflect the interaction among key functional areas: human resource management, represented by talent management and innovative work behavior; operations management, represented by operational performance in lightning management; and marketing management, represented by customer satisfaction. This functional-level perspective is important because improving customer satisfaction in telecommunication tower services does not depend solely on marketing efforts, but also on how human resource capabilities and operational practices are integrated to deliver reliable service performance.

Although previous research has examined talent management, innovative behavior, operational performance, and customer satisfaction in various organizational contexts, limited studies have investigated these relationships in the specific context of lightning risk management in the telecommunication tower industry. Moreover, few studies have explored operational performance as a mediating mechanism that links internal organizational capabilities with customer satisfaction. This gap is important because lightning-induced claims are not only a technical issue but also an organizational issue that involves human capability, innovation, and operational execution.

Therefore, this study aims to examine the effect of talent management and innovative work behavior on customer satisfaction through operational performance in reducing lightning-induced claims at XYZ Company Area 1 Sumatra. This study contributes to the literature by integrating human resource capability, employee innovation, and operational performance within a high-risk telecommunication infrastructure context. Practically, the findings are expected to help XYZ Company strengthen talent

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development, encourage innovation among field employees, improve operational reliability, reduce lightning-induced claims, and enhance customer satisfaction.

MATERIALS AND METHODS

Research Design

This study used a quantitative approach with a causal research design to examine the relationships among talent management, innovative work behavior, operational performance, and customer satisfaction. The study was conducted using a cross-sectional design, in which data were collected at a single point in time through an online structured questionnaire (Creswell & Creswell, 2018). This design was considered appropriate because the research aimed to capture current perceptions of operational practices and customer satisfaction in the context of lightning-induced claim reduction at XYZ Company Area 1 Sumatra.

Population and Sample

The population consisted of all operational sites of XYZ Company in Area 1 Sumatra, totaling 11,260 sites. The sample size was determined using the Slovin formula with a 5% margin of error, resulting in 386.28 sites, which was rounded to 400 sites. The unit of analysis was the operational site. Two groups of respondents were involved. The first group consisted of managerial representatives, including site managers, coordinators, and site management staff, who provided information related to talent management, innovative work behavior, and operational performance. With three managerial respondents from each site, the total number of managerial respondents was 1,200. Their responses were then averaged to obtain one site-level score for each construct, resulting in 400 site-level observations. The second group consisted of one customer representative from each site, resulting in 400 customer respondents who assessed customer satisfaction. Using different respondent sources is also a recommended procedural approach to reduce the potential risk of common method bias in survey-based behavioral research (Sekaran & Bougie, 2016).

Variables and Measurement

This study involved four main constructs: talent management, innovative work behavior, operational performance in lightning management, and customer satisfaction. Talent management was measured through recruitment and selection, employee development, and employee retention. Innovative work behavior was measured through creativity, implementation of new ideas, and continuous improvement. Operational performance focused on process efficiency, response speed, resource management, safety compliance, and documentation in handling lightning-related disturbances. Customer satisfaction was measured through service quality, reliability, responsiveness, staff professionalism, and customer relationship quality. All items were measured using a five-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree. The questionnaire items were adapted from previous studies and adjusted to the operational context of telecommunication tower sites and lightning-induced claim management.

Data Analysis

The data were analyzed using descriptive statistics and Structural Equation Modeling based on Partial Least Squares, or SEM-PLS. Descriptive statistics were used to summarize respondent characteristics and describe the empirical condition of each research variable. SEM-PLS was used to test the measurement model and structural model. The measurement model was evaluated using indicator loading, Average Variance Extracted, Cronbach's alpha, and composite reliability. Indicator loading values above 0.5, AVE values above 0.50, and reliability values above 0.70 were considered acceptable (Hair et al., 2018).

The structural model was assessed through path coefficients, R-square values, and bootstrapping results. Bootstrapping was used to examine the significance of direct and indirect effects among the variables. A relationship was considered significant when the p-value was below 0.05. The mediating role of operational performance was also tested to determine whether talent management and innovative work behavior influenced customer satisfaction through improved operational performance in lightning management.

RESULTS

Respondent Profile

This study involved two groups of respondents: managerial representatives and customer representatives. The managerial respondents consisted of 1,200 individuals from 400 operational sites of XYZ Company in Area 1 Sumatra. Their demographic characteristics are presented in Table 1.

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Table 1. Demographic Characteristics of Managerial Respondents

Demographic Characteristic	Category	Frequency	Percent (%)
Age	25 - 34 years	116	9.7
	35 - 44 years	480	40
	45 – 54 years	515	42.9
	> 54 years	89	7.4
	Total	1200	100
Gender	Male	1100	91.7
	Female	100	8.4
	Total	1200	100
Education	Senior/Vocational High School	65	5.4
	D3	107	8.9
	DIV/S1	941	78.4
	S2/S3	87	7.2
	Total	1200	100
Length of Employment	< 1 year	38	3.2
	1 - 3 years	85	7.1
	3,1 - 5 years	121	10.1
	> 5 years	956	79.7
	Total	1200	100
Position	Site Management Coordinator/Site Manager/Supervisor	561	46,75
	Unit Manager	143	11,92
	Site Management PIC/Staff	496	41,33
	Total	1200	100,00

Source: research data, processed

Based on table 1, most managerial respondents were in the age groups of 45–54 years (42.9%) and 35–44 years (40.0%), indicating that the responses were largely provided by individuals with mature professional experience. The majority were male (91.7%), held a DIV/S1 degree (78.4%), and had worked for more than five years (79.7%). This profile suggests that most respondents had sufficient experience and knowledge of site operations, particularly in managing technical risks and field-level operational challenges.

In terms of position, the largest proportion of managerial respondents were coordinators, site managers, or supervisors (46.75%), followed by site management staff or PICs (41.33%), and unit managers (11.92%). This composition indicates that the study captured perspectives from both field-level operational actors and higher-level managerial decision-makers.

The customer respondents consisted of 400 representatives from the sampled operational sites. These respondents assessed customer satisfaction based on their experience with the services provided by XYZ Company. The demographic characteristics of customer respondents are presented in Table 2.

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Table 2. Demographic Characteristics of Customer Respondents

Demographic Characteristic	Category	Frequency	Percent (%)
Age	25 - 34 years	76	19
	35 - 44 years	124	31
	45 - 54 years	168	42
	55 - 64 years	32	8
	Total	400	100
Gender	Male	275	68.8
	Female	125	31.3
	Total	400	100
Company Type	Operator	268	67
	FMC Vendor	132	33
	Total	400	100
Position	Area Manager	82	20.5
	Costumer Relations	91	22.8
	Site Manajer	100	20.2
	Engineer	71	17.8
	Staff	76	19
	Total	400	100
Education	Senior/Vocational High School	71	17.8
	Master's/Doctoral Degree	84	21
	Applied Bachelor's/Bachelor's Degree	245	61.3
	Total	400	100

Source: research data, processed

The customer respondents consisted of 400 representatives. Most were aged 45–54 years (42.0%) and 35–44 years (31.0%), suggesting that the customer assessments were provided by experienced individuals. Most respondents came from operator companies (67.0%), while the rest represented vendor companies (33.0%). Nearly half of the customers had used XYZ Company's services for more than five years (49.8%), indicating that their evaluations were based on long-term service experience rather than short-term interaction. The services assessed included tower leasing, dedicated internet, data services, and fiber optic services.

Descriptive Results

The descriptive analysis indicates that all research variables were perceived positively by the respondents. The mean scores of the indicators were generally high, suggesting favorable perceptions of talent management, innovative work behavior, operational performance, and customer satisfaction. The descriptive statistics for all measurement indicators are presented in Table 3.

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Table 3. Descriptive Statistics of Research Indicators

Indicator	Mean	Min	Max	Std. dev
MT1	4.91	4.67	5.00	0.15
MT2	4.99	4.33	5.00	0.06
MT3	4.99	4.67	5.00	0.07
MT4	4.99	4.33	5.00	0.06
MT5	4.83	4.00	5.00	0.18
MT6	4.83	4.67	5.00	0.17
MT7	4.85	3.67	5.00	0.20
MT8	4.88	4.00	5.00	0.19
MT9	4.74	4.00	5.00	0.27
MT10	4.82	4.33	5.00	0.18
MT11	4.74	4.00	5.00	0.28
PI1	4.51	3.67	4.67	0.18
PI2	4.58	3.67	5.00	0.17
PI3	4.58	3.33	5.00	0.21
PI4	4.64	4.00	5.00	0.12
PI5	4.43	3.67	5.00	0.33
PI6	4.43	3.33	5.00	0.35
PI7	4.44	3.67	5.00	0.32
PI8	4.42	3.67	5.00	0.34
PI9	4.45	3.67	5.00	0.33
PI10	4.46	3.67	5.00	0.34
KO1	4.58	4.00	4.67	0.15
KO2	4.58	4.00	4.67	0.15
KO3	4.66	4.33	4.67	0.03
KO4	4.74	4.33	5.00	0.15
KO5	4.66	4.33	4.67	0.03
KO6	4.58	4.00	4.67	0.15
KO7	4.50	4.00	4.67	0.17
KO8	4.08	3.67	4.67	0.36
KO9	4.50	4.00	4.67	0.17
KO10	4.50	4.33	4.67	0.17
Cus1	4.82	3.00	5.00	0.40
Cus2	4.83	2.00	5.00	0.41
Cus3	4.87	3.00	5.00	0.37
Cus4	4.91	3.00	5.00	0.30
Cus5	4.74	4.00	5.00	0.44
Cus6	4.76	3.00	5.00	0.44
Cus7	4.84	3.00	5.00	0.39
Cus8	4.83	3.00	5.00	0.38

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Indicator	Mean	Min	Max	Std. dev
Cus9	4.67	3.00	5.00	0.65
Cus10	4.76	3.00	5.00	0.43
Cus11	4.67	3.00	5.00	0.65
Cus12	4.58	3.00	5.00	0.67

Source: research data, processed

Talent management recorded very high mean scores, ranging from 4.74 to 4.99. This indicates that respondents generally perceived talent management practices at XYZ Company as well implemented, particularly in recruitment, selection, training, and employee development. The relatively low standard deviation also suggests that perceptions of talent management were fairly consistent across operational sites.

Innovative work behavior showed high mean scores, ranging from 4.42 to 4.64. However, the scores were slightly lower than those of talent management. This implies that although employees were generally perceived as innovative, innovative behavior may not yet be equally embedded across all sites. Some indicators also showed higher variation, suggesting that innovation still depends on local work culture, managerial support, or the initiative of specific individuals.

Operational performance also received positive evaluations, with mean scores ranging from 4.08 to 4.74. The lowest mean was found in one operational indicator, suggesting that certain aspects of lightning management still need improvement. This finding is important because operational performance is the most direct mechanism through which internal organizational capabilities can be translated into customer experience.

Customer satisfaction was generally high, with mean scores ranging from 4.58 to 4.91. However, several customer satisfaction indicators showed relatively higher standard deviations. This indicates that customer experience was not fully uniform across all sites. Some customers may have experienced more reliable service, faster recovery, and better communication than others, especially during lightning-related disturbances.

Measurement Model Evaluation

The outer model evaluation confirmed that the measurement model met the required validity and reliability criteria. All retained indicators had acceptable loading factor values, while Cronbach's alpha, composite reliability, and AVE values indicated adequate internal consistency and convergent validity. The results of the measurement model evaluation are presented in Table 4.

Table 4. Measurement Model Evaluation

Variable	Indicator	loading factor	Cronbach's Alpha	Composite Reliability	AVE
Customer satisfaction	Cus1	0.671	0.948	0.956	0.709
	Cus10	0.875			
	Cus11	0.958			
	Cus12	0.900			
	Cus5	0.851			
	Cus6	0.899			
	Cus7	0.699			
	Cus8	0.707			
	Cus9	0.957			
Operational performance	KO1	0.787	0.943	0.95	0.731
	KO10	0.939			
	KO2	0.795			
	KO6	0.784			

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Variable	Indicator	loading factor	Cronbach's Alpha	Composite Reliability	AVE
	KO7	0.926			
	KO8	0.800			
	KO9	0.932			
Talent management	MT1	0.714	0.948	0.955	0.759
	MT10	0.946			
	MT11	0.946			
	MT5	0.946			
	MT6	0.964			
	MT8	0.561			
	MT9	0.934			
Innovative Work Behavior	PI1	0.977	0.658	0.739	0.509
	PI2	0.508			
	PI3	0.560			

Source: SmartPLS output, processed

After several stages of indicator evaluation, all retained indicators had loading factor values above the minimum threshold of 0.50. The constructs of customer satisfaction, operational performance, and talent management showed strong reliability, with Cronbach's alpha and composite reliability values above 0.90. Their Average Variance Extracted values were also above 0.50, confirming adequate convergent validity.

The innovative work behavior construct had lower reliability than the other constructs, with a Cronbach's alpha of 0.658. However, its composite reliability value of 0.739 and AVE value of 0.509 were still within acceptable thresholds. This suggests that the construct remained usable in the model, although the results related to innovative work behavior should be interpreted with some caution. Overall, the measurement model was considered adequate for further structural model analysis.

Structural Model Results

The structural model was evaluated to test the hypothesized relationships among the research variables. The results of the hypothesis testing are presented in Table 5.

Table 5. Hypothesis Testing Results

Hypothesis	Path	Coefisien	t-stat	p-value	Decision
H1	Talent Management → Operational Performance	0.734	14.102	0.000	Supported
H2	Innovative Work Behavior → Operational Performance	0.116	1.831	0.068	Not Supported
H3	Talent Management → Innovative Work Behavior	0.747	22.398	0.000	Supported
H4	Operational Performance → Customer Satisfaction	0.622	7.886	0.000	Supported
H5	Talent Management → Customer Satisfaction	-0.594	7.200	0.000	Supported
H6	Talent Management → Operational Performance → Customer Satisfaction	0.019	0.328	0.743	Not Supported
H7	manajemen talenta -> kinerja operasi -> kepuasan pelanggan	0.420	5.648	0.000	Supported
H8	Innovative Work Behavior → Operational Performance → Customer Satisfaction	0.150	2.442	0.015	Supported

Source: SmartPLS output, processed

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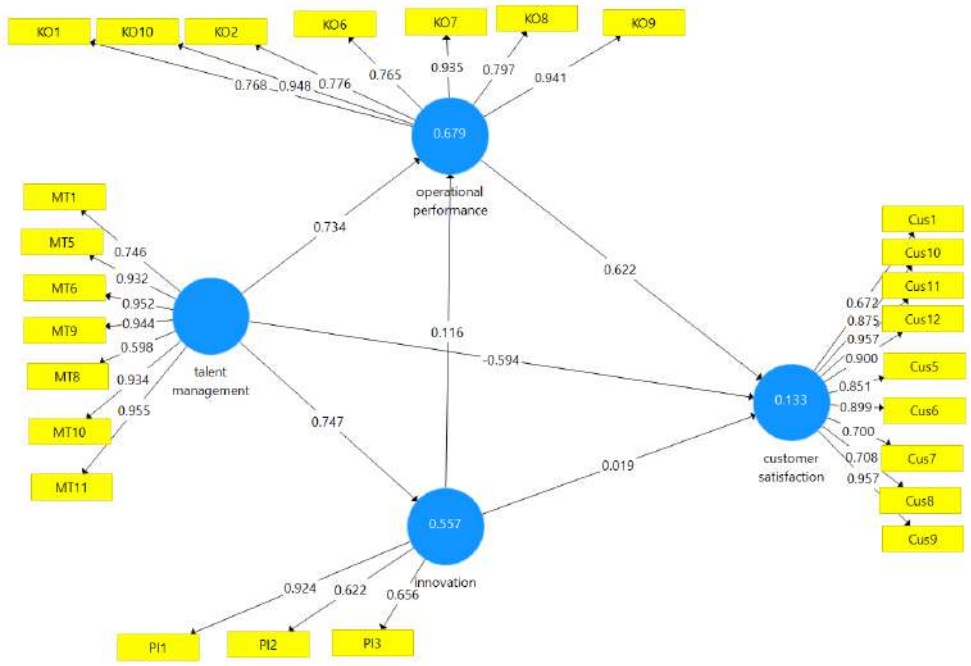

Figure 1. Path Diagram

The structural model results indicate that most of the proposed relationships were statistically significant. Talent management had a positive and significant effect on operational performance ($\beta = 0.734$, $p < 0.001$), supporting H1. This finding suggests that stronger talent management practices are associated with better operational performance in lightning management. In this context, effective recruitment, employee development, training, and retention may strengthen site readiness and improve the ability of operational teams to respond to lightning-related disturbances.

Innovative work behavior had a positive but not significant effect on operational performance ($\beta = 0.116$, $p = 0.068$); therefore, H2 was not supported. Although the direction of the relationship was positive, the effect did not reach the required level of statistical significance. This result indicates that individual innovation may not be sufficient to improve operational performance unless it is supported by formal procedures, managerial commitment, adequate resources, and organizational systems that enable innovative ideas to be implemented consistently across sites.

Talent management had a positive and significant effect on innovative work behavior ($\beta = 0.747$, $p < 0.001$), supporting H3. This finding indicates that well-implemented talent management practices can create an organizational environment that encourages creativity, learning, and the development of new ideas among employees. Thus, innovative work behavior can be understood as an outcome of broader organizational support rather than merely an individual attribute.

Operational performance had a positive and significant effect on customer satisfaction ($\beta = 0.622$, $p < 0.001$), supporting H4. This result confirms that customers are more likely to be satisfied when operational processes are reliable, responsive, and capable of minimizing service disruptions caused by lightning-related incidents. In telecommunication tower services, operational reliability, response speed, and recovery consistency are essential elements of the customer experience.

The direct effect of talent management on customer satisfaction was statistically significant but negative ($\beta = -0.594$, $p < 0.001$). Therefore, although the relationship was significant, the hypothesized positive direction of H5 was not supported. This result should be interpreted carefully. It does not imply that talent management reduces customer satisfaction, but rather suggests that internal talent management practices may not be directly perceived by customers. Customers are more likely to experience the benefits of talent management when these practices are translated into visible operational improvements, such as faster response, better claim handling, and more reliable service recovery.

Innovative work behavior did not have a significant direct effect on customer satisfaction ($\beta = 0.019$, $p = 0.743$); therefore, H6 was not supported. This finding suggests that innovation at the individual level may not directly influence customer satisfaction

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unless it produces concrete improvements in service quality or operational performance. In other words, customers may not recognize employee innovation unless it is reflected in more reliable, faster, and more consistent service delivery.

The mediation results show that operational performance significantly mediated the relationship between talent management and customer satisfaction ($\beta = 0.420$, $p < 0.001$), supporting H7. Operational performance also significantly mediated the relationship between innovative work behavior and customer satisfaction ($\beta = 0.150$, $p = 0.015$), supporting H8. These findings confirm that operational performance serves as a key pathway through which internal organizational capabilities are converted into customer satisfaction. Thus, in the context of lightning-induced claim reduction, improving customer satisfaction depends not only on talent management and innovation, but also on the company's ability to translate these capabilities into stronger operational performance.

DISCUSSION

The findings highlight the central role of operational performance in improving customer satisfaction in the telecommunication tower industry. In the context of lightning-induced claims, customers are primarily concerned with service reliability, response speed, recovery time, and the consistency of operational handling. This is consistent with service quality theory, which emphasizes reliability and responsiveness as key dimensions in shaping customer evaluation and satisfaction (Wilson et al., 2016). Therefore, internal capabilities such as talent management and innovative work behaviour become meaningful for customers only when they are converted into stronger operational performance.

The positive effect of talent management on operational performance confirms that human resource capability is crucial in high-risk operational environments. Effective recruitment, training, competency development, and retention help ensure that operational teams have the necessary skills to handle lightning-related disturbances. This finding is consistent with previous studies showing that talent management improves productivity, efficiency, and organizational performance. Previous studies also show that talent management improves productivity, efficiency, and organizational performance (Hongal & Kinange, 2020). In the case of XYZ Company, talent management appears to be a strategic foundation for strengthening site readiness and reducing operational disruptions.

The significant effect of talent management on innovative work behavior also shows that innovation does not emerge in isolation. Employees are more likely to develop and implement new ideas when they are supported through training, career development, recognition, and a positive work environment. It also supports the view that talent management can create organizational conditions that stimulate innovation and improve performance (Luna-Arocas, 2023). This suggests that innovation at XYZ Company should be viewed as an outcome of a broader talent management system rather than merely an individual characteristic.

However, the insignificant direct effect of innovative work behavior on operational performance and customer satisfaction provides an important insight. Innovation at the individual level may remain fragmented if it is not supported by organizational mechanisms. Ideas related to grounding improvement, monitoring systems, or new maintenance practices may not produce measurable operational benefits unless they are standardized, documented, tested, and implemented consistently across sites. Furthermore, Praeditia & Sutjipto (2025) explained that operational team performance is not determined only by technology, but also by human resource readiness, management support, and digital competence. Therefore, innovative work behavior needs to be facilitated through clear organizational mechanisms, such as management support, process standardization, training, and idea implementation systems, so that it can make a real contribution to improving operational performance. Thus, innovation needs to be institutionalized through formal operational procedures and continuous improvement systems.

The positive effect of operational performance on customer satisfaction confirms that service experience is strongly shaped by operational reliability. In tower infrastructure services, customers evaluate the company not only based on technical capacity but also on how quickly and consistently the company responds to disturbances. Better operational performance reduces downtime, improves claim handling, strengthens trust, and ultimately increases customer satisfaction. This finding is consistent with service quality theory and prior evidence in the telecommunications sector, which show that reliability, responsiveness, and service delivery performance are important predictors of customer satisfaction (Alsaqer et al., 2024).

The negative direct effect of talent management on customer satisfaction should be interpreted carefully. This result does not necessarily mean that talent management is harmful to customer satisfaction. Rather, it suggests that the direct path may be

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affected by a suppression effect or by the fact that customers do not directly observe internal human resource practices. Talent management becomes valuable to customers when it improves operational outcomes. Therefore, the significant indirect effect through operational performance provides a more meaningful explanation of how talent management contributes to customer satisfaction.

The mediation findings strengthen the argument that operational performance is the key mechanism in this research model. Talent management improves customer satisfaction when it enhances the ability of operational teams to manage lightning-related risks. Similarly, innovative work behavior contributes to customer satisfaction when creative ideas are transformed into better operational processes. This confirms that customer satisfaction in high-risk infrastructure services depends not only on internal organizational capability but also on the company's ability to operationalize that capability into reliable service delivery.

CONCLUSION

The results suggest that XYZ Company should prioritize operational performance as the main pathway for improving customer satisfaction. Improvements should focus on response speed, reliability of service recovery, consistency of lightning-risk procedures, documentation of site inspections, and standardization of operational practices across sites. Talent management should also be strengthened, especially through competency-based recruitment, technical training in lightning risk mitigation, retention of experienced personnel, and equal distribution of skilled employees across high-risk sites. Since talent management strongly affects both operational performance and innovative behavior, it should be treated as a strategic investment rather than merely an administrative function.

Innovative work behavior should be encouraged, but it must be connected to formal operational systems. Employee ideas should be collected, evaluated, tested, and converted into standardized procedures or technical improvements. This will help ensure that innovation does not remain individual and informal but becomes part of the company's operational capability. These findings indicate that customer satisfaction can be improved most effectively by strengthening operational performance, supported by competent talent and structured innovation. In the context of lightning-induced claim reduction, the company should focus not only on technical equipment but also on the people, processes, and innovation systems that determine the reliability of field operations.

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International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 09 Issue 07 July 2026
DOI: 10.47191/ijcsrr/V9-i7-03, Impact Factor: 8.048
IJCSRR @ 2026
www.ijcsrr.org

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Cite this Article: Sirait, R.A., Pasaribu, R.D. (2026). Enhancing Customer Satisfaction through Talent Management and Innovative Work Behavior: The Mediating Role of Operational Performance in Reducing Lightning-Induced Claims in a Telecommunication Tower Company. International Journal of Current Science Research and Review, 9(7), pp. 3636-3647. DOI: https://doi.org/10.47191/ijcsrr/V9-i7-03