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RESEARCH ARTICLE

Service recovery performance in ODL: Examining organizational, work resource, and work demand factors with educator's employment status as a moderator

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ABSTRACT

Service recovery is critical to organizational success, particularly in educational institutions offering open and distance learning (ODL). Effective service recovery strategies ensure student retention and institutional reputation. However, despite its importance, research on service recovery performance among educators in ODL remains limited, particularly concerning factors that influence their ability to provide effective recovery. This gap highlights the need for a deeper examination of organizational, work resource, and work demand factors affecting educators' service recovery performance. The objective of this study is to examine the relationship between organizational factors (top management commitment), work resource factors (rewards, training, customer service orientation, empowerment), and work demand factors (emotional exhaustion, affective commitment, and self-efficacy) in shaping service recovery performance among ODL educators in Malaysia. Additionally, the study investigates how employment status moderates these relationships. A total of 443 responses were collected from ODL educators, including full-time and part-time, ensuring a diverse representation of experiences. By utilizing survey questionnaires and analyzing data through SPSS and PLS-SEM, the study aims to provide empirical evidence on key determinants of service recovery performance. The findings will offer significant insights for academic institutions and policymakers, helping them develop strategies to enhance service recovery efforts and improve overall student satisfaction in ODL environments.

Keywords: Service recovery performance; sustainable growth; open and distance learning; organisation factor, top management; work resource factors; work demand factors; employment status; self-efficacy

1. Introduction

Service failures are inevitable, but what truly defines an institution is how effectively it recovers from

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them. In the rapidly growing field of open and distance learning (ODL), where students rely entirely on virtual communication and digital platforms, a single unresolved issue can shatter trust, diminish satisfaction, and drive students away[1]. While traditional higher education settings allow real-time service recovery through in-person interactions, ODL presents unique challenges. Service recovery in ODL is especially crucial due to the lack of physical interaction, making online responsiveness and digital support systems essential[2]. In this high-stakes environment, educators serve as the first line of defence in service recovery, directly influencing student retention and institutional reputation[3]. However, not all educators possess the necessary skills or support to manage service recovery effectively, making it imperative to identify the key factors that enhance their service recovery performance[4].

In Malaysia, ODL is not just an alternative mode of education—it is a transformative force shaping the future of higher learning[1]. With the government's push to establish Malaysia as a leading education hub in Southeast Asia, ODL institutions are expanding rapidly to accommodate a diverse student population. However, the effectiveness of these programs is highly dependent on the quality of service recovery mechanisms[3]. Poor service recovery does not just lead to dissatisfied students—it fuels dropout rates, weakens institutional credibility, and erodes the competitive advantage of Malaysian higher education institutions[5]. This study is positioned at the intersection of these challenges, aiming to provide insights that will enable institutions to enhance service recovery strategies, refine educator training programs, and strengthen student support systems.

Prior research on service recovery performance has examined various industries, including healthcare[6], banking[7], hotels[8], and insurance[9-10]. Numerous studies have adopted the[4] model, which identifies managerial attitudes (top management commitment, customer service orientation, and rewards) and job perceptions (teamwork, empowerment, training, role conflict, role ambiguity, and organizational commitment) as key determinants. Research has also linked organizational support, training, empowerment, and personality traits to service recovery performance[5,8]. Extant research has shown that organizational, resource and demand factors have significant impacts on service recovery performance[11-13], however, the roles of different factors vary in predicting service recovery in different research contexts. In higher education, studies have primarily explored branding[14], customer satisfaction[15], and service failure recovery[16], with additional research examining perceived justice in service recovery[17]. Despite extensive literature, research on service recovery in the education sector—particularly within ODL institutions—remains limited. Additionally, although employment status has been studied with other factors on service recovery performance[18-19], its impact on service recovery effectiveness in education remains unclear.

This study seeks to bridge existing gaps by offering a deeper understanding of service recovery performance in the ODL sector. Through a comparative analysis of critical factors—organizational, work resource and work demand factors—this research develops a more comprehensive framework for service recovery in ODL institutions. By employing the Equity theory, this research extends theoretical insights by examining how educators in digital learning environments handle service failures. Additionally, this study focuses on the moderating role of employment status, an aspect that has been largely overlooked in prior research. In brief, this study specifically aims to identify the organizational, work resource and work demand factors influencing service recovery performance among educators in Malaysian ODL institutions, emphasising employment status as a moderating variable. Addressing these critical gaps provides empirical evidence to enhance overall service quality in ODL education. Beyond academic contributions, this research represents a call to action—an effort to redefine service excellence in Malaysian higher education and ensure that all students, regardless of learning mode, receive the support they deserve.

2. Literature review

2.1. Theoretical foundation

Equity theory, developed by[20] and [21], provides a framework for understanding how individuals assess fairness in social and workplace exchanges. Rooted in social exchange theory, the core idea of equity theory is that individuals evaluate the fairness of exchange by comparing their inputs (e.g., effort, education, experience) to their outputs (e.g., salary, recognition, career development)[22-23]. If employees perceive an imbalance between their contributions and rewards, it can lead to dissatisfaction, reduced motivation, and lower performance[24]. The theory underscores that perceived fairness is crucial in maintaining employee motivation and commitment, influencing both individual and organizational success[25-26].

Previous studies have extensively applied equity theory to explore customer satisfaction and service recovery outcomes. For instance, research has examined the impact of equity perception on service failure and complaint handling[27-29]. Studied by[24] service complaints in Norway, finding that perceived fairness in service recovery affects customer satisfaction. Similarly[30] demonstrated that additional compensation after a service failure enhances perceived equity regardless of customer relationship level. In the employee motivation domain, studies have investigated salary fairness[31], job satisfaction[32], and service industry performance[33,34,35]. These studies affirm that perceived equity significantly influences employee and customer attitudes and behaviours.

This research employs equity theory to examine the relationship between organizational, work resource, and work demand factors as input variables, with service recovery performance as the output variable. The study posits that employees assess the fairness of their inputs (e.g., rewards, training, empowerment, and emotional exhaustion) relative to their service recovery outcomes. Employees who perceive an imbalance—such as insufficient rewards for their efforts—may reduce their engagement in service recovery tasks. Thus, this study extends equity theory by applying it to evaluate service recovery performance in a workplace setting in an ODL context.

2.2. Organizational factor

Top management commitment is a crucial organizational factor that significantly impacts various aspects of an organization. Literature suggests that top management commitment influences organizational performance through improved productivity, service quality, financial performance, and customer satisfaction[33,36]. Committed top management fosters a quality-driven culture by providing leadership, resources, and policy support necessary for continuous improvement initiatives[37]. Furthermore, empirical evidence highlights that strong top management commitment enhances product quality, service excellence, and employee satisfaction, thereby reinforcing the organization's overall performance[38-39].

Top management commitment is also a significant predictor of service recovery performance, as it establishes a supportive environment that enables employees to address service failures effectively. Prior studies indicate that management's dedication to service excellence positively influences employee attitudes, motivation, and service recovery performance[33,40]. In various industries, such as telecommunications, hospitality, and banking, top management commitment to service quality—through training, empowerment, employee rewards, and supportive leadership—has been shown to enhance service recovery performance[6,41]. However, some studies, such as those by[4] Boshoff and Allen (2000) and[19], found no significant link between top management commitment and service recovery performance, suggesting contextual variations. Given the crucial role of top management commitment in driving service recovery efforts, it is hypothesised that:

H1. Top management commitment will positively influence service recovery performance.

2.3.Work resources factors

Work resource factors enable educators to achieve their professional objectives while fostering job satisfaction and motivation. Resources like rewards are key motivators that enhance employee performance and engagement[42]. Effective reward systems, including both intrinsic (e.g., recognition, autonomy, and meaningful work) and extrinsic (e.g., salary, bonuses, and career growth) rewards, help organizations attract, retain, and motivate high-performing employees[43-44]. The relationship between rewards and service recovery performance has been well-documented, with studies showing that financial and non-financial rewards significantly impact employees' ability to handle customer complaints effectively[45-46]. In service industries reward practices—including pay raises, public recognition, and performance-based incentives—have been linked to improved service recovery performance[47-48]. Similarly, well-structured reward programs can serve as powerful motivators in education, ensuring that educators remain committed to addressing service failures and enhancing learner satisfaction. Given these findings, it is hypothesised:

H2: Rewards have a positive influence on service recovery performance.

Training is critical to organizational success, enhancing employee skills, job satisfaction, and overall performance[49-50]. Studies confirm a strong positive relationship between training and employee performance across various industries, as it equips employees with the necessary knowledge, skills, and abilities to perform efficiently[51-52]. Additionally, training plays a vital role in service recovery performance, particularly in industries where customer service is crucial, by improving problem-solving, communication, and technical skills[45-46]. Employees with adequate training are better equipped to handle service failures effectively, improving customer satisfaction and organizational performance[53-54]. While some studies suggest that training does not directly impact service recovery[34], the overall consensus highlights its importance in preparing employees for service challenges. Based on these findings, it is hypothesised:

H3. Training will positively influence service recovery performance.

Empowerment is a crucial management strategy that grants employees authority, autonomy, and responsibility in decision-making, fostering innovation and job satisfaction[55]. In service industries, particularly education, empowerment is essential for addressing customer demands and enhancing service recovery performance[4]. When frontline employees have decision-making power, they can respond quickly and effectively to service failures, improving customer satisfaction and organizational success[46]. Studies in various service sectors, including hospitality and healthcare, confirm a positive link between employee empowerment and service recovery performance[53,34]. Therefore, this study hypothesises:

H4. Empowerment will positively influence service recovery performance.

Customer service orientation (CSO) is a strategic organizational approach that prioritizes customer needs through responsive and proactive service behaviours[56]. It is crucial in enhancing business performance by fostering customer satisfaction, loyalty, and financial success[57]. At both the organizational and individual levels, CSO drives service excellence and contributes to employees' service behaviour performance[58]. A strong CSO culture is also essential for effective service recovery, as it encourages employees to take ownership of resolving service failures, ultimately improving customer satisfaction and retention[57,59]. Empirical studies have demonstrated a positive relationship between CSO and service recovery performance, particularly in banking, hospitality, and telecommunications[60-61-62]. However, some research suggests that the impact of CSO on service recovery may vary based on organizational policies,

employee attitudes, and industry-specific factors[6,13]. Given these findings, the following hypothesis is proposed:

H5. Customer service orientation will positively influence service recovery performance.

2.4. Work demands factors

Emotional exhaustion is a critical work demand factor that arises from prolonged exposure to psychological stressors, particularly in roles requiring sustained emotional engagement[63]. It is characterized by feelings of fatigue, depletion of emotional resources, and an overall sense of being overwhelmed[64]. Research has shown that emotional exhaustion negatively impacts job performance, job satisfaction, and organizational commitment across various sectors, including education, hospitality, and healthcare[65-66]. Specifically, studies have established a strong inverse relationship between emotional exhaustion and service recovery performance, as emotionally exhausted employees struggle to engage in effective problem-solving and customer interactions[67-68]). For instance,[69] and [70] found that call centre and hotel employees experiencing high emotional exhaustion exhibited lower service recovery performance due to diminished energy and motivation. Similar findings in banking, tourism, and insurance sectors suggest that emotionally exhausted employees are less likely to handle service failures effectively, reducing customer satisfaction[71,9,72]. However, some studies indicate that emotional exhaustion does not always significantly impact service recovery performance, highlighting the role of individual resilience and organizational support mechanisms[7,73]. Given the substantial evidence linking emotional exhaustion to diminished service recovery performance, this study hypothesizes:

H6: Emotional exhaustion will negatively influence service recovery performance.

Affective organizational commitment, a key dimension of organizational commitment, reflects an employee's emotional attachment, identification, and involvement with their organization[74]. Extensive research has linked affective commitment to positive workplace outcomes such as job satisfaction, retention, and performance[75-76]. In the context of service industries, affective commitment has been found to play a crucial role in employees' service recovery performance, which is the ability to address service failures effectively. Studies by[4] and[45] demonstrated that frontline employees with strong affective commitment exert greater effort and display better service recovery performance in banking and healthcare settings. Similarly,[58] found that committed employees in public and private healthcare sectors were more effective in managing customer complaints and improving organizational reputation. Recent research by[77] and [11] supports the positive association between affective commitment and service recovery performance, emphasizing that highly committed employees deliver superior service quality. Based on these findings, it is hypothesised that:

H7. Affective organizational commitment will positively influence service recovery performance.

Self-efficacy, derived from social cognitive theory, refers to an individual's belief in their ability to organize and execute actions required to achieve specific goals[78]. It influences emotions, motivation, and behaviour, making it a crucial determinant of job performance and service quality[79]. Prior research has demonstrated a strong link between self-efficacy and job performance, particularly in service-oriented roles. [8] found that employees with higher self-efficacy exhibited superior job performance. Additionally, studies have explored the relationship between self-efficacy and service recovery performance, where higher self-efficacy enables employees to handle service failures effectively and ensure customer satisfaction[80] concluded that travel agents with greater self-efficacy performed better in service recovery, while[82] found that self-efficacious employees were more likely to report service errors and improve recovery efforts. Based on these findings, this study proposes the following hypothesis:

H8. Educator's self-efficacy positively influences service recovery performance.

The proposed research framework is presented in **Figure 1**.

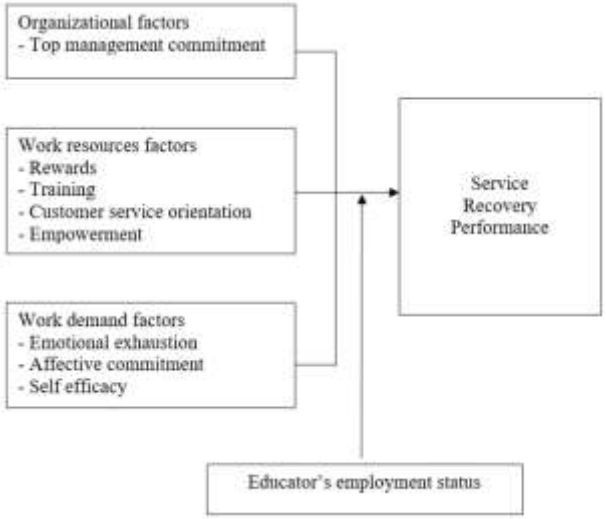

Figure 1. Research framework

2.5. Moderating role of educator's employment status

The educator's employment status refers to the duration an educator has spent in a particular teaching role or the overall years of teaching experience in open and distance learning[83]. Previous studies suggest that educators with extensive experience are more likely to remain with their current institutions due to the investment of time, effort, and seniority benefits[84]. Work experience has been linked to improved judgment, job stability, and performance while also reducing negative work behaviours such as absenteeism[85]. Additionally, experienced employees tend to possess a broader knowledge base and demonstrate higher levels of job performance[86]. Research also indicates that organizational tenure enhances job commitment and skill development, leading to higher effectiveness in work-related tasks[87]. In higher education, educators with extended teaching experience may be better equipped to handle diverse student needs and contribute to institutional success in open and distance learning environments.

Several studies have explored employment status as a moderator in the relationship between key job factors and employee performance. [88] found that work experience moderated the link between goal setting and task performance, while [89] identified employment status as a moderator between cost savings and the adoption of mobile technology. Similarly, [90] reported that work experience moderated the relationship between job satisfaction and employee retention in the pharmaceutical industry. In the service recovery context,[91] demonstrated that perceived organizational support moderated the relationship between knowledge-sharing and service recovery performance among Islamic bank employees. [92] found that supervisor and coworker support moderated service recovery performance in restaurant settings. While limited research has examined educator employment status as a moderator in service recovery performance, prior studies highlight its potential influence on job commitment, service quality, and emotional resilience in educational environments. Based on these insights, the following hypothesis is proposed:

H9. Educator's employment status moderates the relationship between organizational factor (top management commitment), work resource factors (rewards, training, empowerment, customer service orientation), and work demands factors (emotional exhaustion, affective organizational commitment, educator's self-efficacy) on service recovery performance.

3. Methodology

This research employed positivism, quantitative and deductive approaches. The population for this study consisted of educators involved in ODL at Open University Malaysia (OUM) across the country. The university's management provided relevant information, including the total number of educators, their email addresses, and contact details, enabling the development of a complete sampling frame. To ensure the generalisability of the findings, a probabilistic sampling technique, specifically simple random sampling, was employed. A survey research methodology was adopted to collect standardised data, allowing for a structured analysis of variables and their relationships.

Data collection was conducted via an online survey, where questionnaires were emailed to OUM educators engaged in ODL. An official cover letter outlining the survey's purpose was attached, including the researcher's contact information for any inquiries. Participants were assured of confidentiality, and honest responses were encouraged. The survey targeted active educators, with an estimated 8,000 involved per semester, from which 750 were identified as active for the study. Each educator was assigned a sequential number from 1 to 750, and a random number generator was used to select participants, representing 20% of the population.

The study surveyed 443 respondents, providing insights into their demographic characteristics, including age, gender, qualifications, and employment status. The majority (43.1%) were aged between 36-40 years, followed by 31-35 years (21.9%), over 40 years (21.2%), and 26-30 years (13.8%). In terms of gender, males dominated the sample, comprising 66.1% (293 respondents), while females accounted for 33.9% (150 respondents). Regarding academic qualifications, 65.5% held a Master's degree or lower, while 34.5% had a Doctorate or higher. The majority, 68.4% (303 respondents), were employed full-time, while 31.6% (140 respondents) worked part-time. These findings indicate that the sample primarily consists of full-time educators, suggesting greater participation from those in stable, long-term academic roles.

The research instrument was developed by integrating validated measurements from existing literature, with slight adjustments for the study's sample. Top management commitment was measured using four items from [4] ($\alpha = 0.81$). The rewards variable was assessed with five items from[4] ($\alpha = 0.83$). Training was measured with six items from Yavas et al. (2003) ($\alpha = 0.94$), while empowerment was evaluated using four items from [46] ($\alpha = 0.78$). Customer service orientation consisted of six items from[6] ($\alpha = 0.79$). Emotional exhaustion was measured using items from [7] ($\alpha = 0.90$). Affective organizational commitment was assessed using constructs from[93] ($\alpha = 0.79$). Self-efficacy, consisting of four items, was adapted from[94] ($\alpha = 0.71$). Employee perceived service recovery performance was measured using a five-item scale from [4] ($\alpha = 0.70$). All items were rated on a 5-point Likert scale ranging from (1) strongly disagree to (5) strongly agree.

The data analysis was conducted using IBM SPSS for descriptive analysis and to examine the factorial structures of key research variables. Measurement and structural models were evaluated using partial least squares structural equation modelling (PLS-SEM) in SmartPLS. This comprehensive approach provided valuable insights into the research framework and the significance of the hypothesised relationships. The study also emulated best research practices observed in previouus studies[95-96].

4. Findings

4.1. Common Method Bias (CMB)

Given the reliance on self-reported data from a single source, this study conducted an explicit assessment of common method bias (CMB), as recommended by[97]. CMB can distort observed relationships among constructs and compromise the validity of empirical findings[98]. To examine the presence of CMB,

Harman's single-factor test was performed using exploratory factor analysis (EFA) in SPSS. All measurement items were entered into an unrotated principal components analysis to assess the number of factors accounting for the variance in the data. According to established guidelines, if a single factor emerges or one general factor explains more than 50% of the variance, CMB may be a concern [99]. In this study, the first unrotated factor accounted for 30.14% of the total variance, which is well below the 50% threshold. These results suggest that common method bias is unlikely to pose a significant threat to the validity of the findings.

4.2. Measurement model

The reliability and validity of the measurement model were assessed using Cronbach's alpha and composite reliability (CR), both of which exceeded the recommended threshold of 0.70, indicating strong internal consistency[100] (**Table 1**). Convergent validity was confirmed, as all average variance extracted (AVE) values surpassed the 0.50 threshold. Factor loadings were also examined, with most items meeting the recommended 0.70 threshold. Out of 44 items, one item (AOC1) was deleted due to low factor loading. Two items (SE1 and SRP4) with loadings between 0.50 and 0.70 were retained, as their removal would have reduced Cronbach's alpha and only slightly improved AVE. The final retained items demonstrated strong reliability and validity, ensuring the robustness of the measurement model.

Discriminant validity was assessed using the Fornell and Larcker criterion and the heterotrait–monotrait (HTMT) ratio. According to [101], discriminant validity is achieved when the square root of the AVE for each construct is greater than its inter-construct correlations, a condition that was satisfied as shown in Table 2. Furthermore, all HTMT ratio values remained below the recommended threshold of 0.90 [102] confirming the absence of discriminant validity issues. Overall, these results demonstrate that the measurement model meets the required evaluation criteria, ensuring the reliability and validity of all constructs.

Table 1. Convergent validity

Items	Factor loadings	Cronbach's alpha	Composite reliability	AVE
AOC2	0.833	0.861	0.862	0.707
AOC3	0.862			
AOC4	0.856			
AOC5	0.81			
CSO1	0.815	0.905	0.907	0.679
CSO2	0.840			
CSO3	0.857			
CSO4	0.843			
CSO5	0.781			
CSO6	0.805			
EE1	0.719	0.898	0.93	0.699
EE2	0.845			
EE3	0.879			
EE4	0.901			
EE5	0.823			
EMP1	0.746	0.833	0.836	0.668
EMP2	0.835			
EMP3	0.862			
EMP4	0.822			
RE1	0.831	0.899	0.916	0.71
RE2	0.85			
RE3	0.871			
RE4	0.854			
RE5	0.807			
SE1	0.636	0.709	0.722	0.531
SE2	0.761			

Items	Factor loadings	Cronbach's alpha	Composite reliability	AVE
SE3	0.774			
SE4	0.737			
SRP1	0.775	0.803	0.807	0.56
SRP2	0.78			
SRP3	0.782			
SRP4	0.693			
SRP5	0.708			
TMC1	0.815	0.841	0.846	0.676
TMC2	0.843			
TMC3	0.831			
TMC4	0.799			
TR1	0.707	0.868	0.878	0.603
TR2	0.796			
TR3	0.85			
TR4	0.805			
TR5	0.723			
TR6	0.769			

Table 1. (*Continued*)

Table 2. Discriminant validity: Fornell-Lacker criterion

	AOC	CSO	EE	EMP	EMPL	RE	SE
AOC	0.841						
CSO	0.644	0.824					
EE	-0.163	-0.215	0.836				
EMP	0.403	0.34	0.109	0.817			
EMPL	-0.045	-0.046	-0.046	0.004	1		
RE	0.207	0.283	0.041	0.257	-0.061	0.843	
SE	0.533	0.474	-0.112	0.403	-0.006	0.236	0.729
SRE	0.532	0.458	-0.073	0.426	-0.016	0.191	0.657
TMS	0.526	0.589	-0.251	0.202	-0.02	0.337	0.455
TR	0.471	0.613	-0.23	0.375	-0.047	0.446	0.417

Note: *In bold – square root of average variance extracted estimates.*

4.3. Structural model

After evaluating the measurement model, the structural model was assessed to ensure the validity of relationships between constructs. A key aspect of this evaluation was checking for collinearity, as high collinearity can distort the analysis of latent variables. Collinearity was assessed using the variance inflation factor (VIF), with a recommended threshold of less than 5 [103]. In this study, all inner VIF values ranged from 1.272 to 3.322, indicating that collinearity was not a concern. These results confirm that the structural model is stable and free from multicollinearity issues.

The coefficient of determination (R^2) indicated an explanatory power of 57.7%, demonstrating a strong level of predictive accuracy. Further analysis of the effect size (f^2) showed that the exogenous variables had either a small effect ($f^2 > 0.02$) or no significant impact on the R^2 of the endogenous variables. Additionally, the Q^2 values for all five constructs were well above zero, confirming the model's predictive relevance for the endogenous latent variables. Prediction error was assessed using the root-mean-square error (RMSE) and mean absolute error (MAE), with most indicators showing lower prediction errors compared to the linear model (LM), indicating medium predictive power. Model fit was evaluated using the standardized root mean square residual (SRMR), a widely accepted measure of model fit. According to [104], SRMR values below 0.08 indicate a good model fit. In this study, the SRMR value was 0.065, reflecting an average difference of only 0.055 between the actual and predicted correlations. Since this value is below the recommended threshold, it confirms that the model provides a good fit to the data.

The significance of the coefficient for each path in the research model was examined using a bootstrapping technique with 5000 resamples (Table 3) (Fig. 2). H1 posits a direct positive relationship between Top Management Commitment (TMC) and Service Recovery Performance (SRP). The results confirmed this hypothesis, as the path coefficient from TMC to SRP was statistically significant (β = 0.284, t = 4.625, p = 0.000), indicating a positive relationship. Hypotheses H2 to H5 examine the relationship between four work resource factors and Service Recovery Performance (SRP). Among these, only H4 was supported (β = 0.119, t = 2.430, p = 0.008), demonstrating a significant positive relationship. However, H2 (β = -0.063, t = 1.529, p = 0.063), H3 (β = 0.066, t = 1.300, p = 0.097), and H5 (β = -0.051, t = 0.910, p = 0.182) were not supported. These findings indicate that Empowerment (EMP) has a significant direct positive effect on SRP, while the other work resource factors do not. Hypotheses H6 to H8 explore the impact of work demand factors on SRP. The results showed that Emotional Exhaustion (EE) did not have a significant effect, providing no support for H6 (β = 0.057, t = 1.380, p = 0.084). However, both Affective Commitment (AOC) and Self-Efficacy (SE) demonstrated significant positive associations with Organizational Performance (OP), supporting H7 (β = 0.111, t = 2.015, p = 0.022) and H8 (β = 0.436, t = 8.578, p = 0.000), respectively.

Table 3. Structural model results

Hypothesis	Structural Path	Path Coefficient (β)	T-value	P-value	Hypothesis test
H_1	TMC → SRP	0.284	4.625	0.000	Supported
H_2	RE → SRP	-0.063	1.529	0.063	Not Supported
H_3	TR → SRP	0.066	1.300	0.097	Not Supported
H_4	EMP → SRP	0.119	2.430	0.008	Supported
H_5	CSO → SRP	-0.051	0.910	0.182	Not Supported
H_6	EE → SRP	0.057	1.380	0.084	Not Supported
H_7	AOC → SRP	0.111	2.015	0.022	Supported
H_8	SE → SRP	0.436	8.758	0.000	Supported

This study also hypothesises the moderating role of Employment (EMPL) in the relationship between Service Recovery Performance (SRP) and key factors, including four Work Resource Factors (i.e., Rewards, Training, Customer Service Orientation, and Empowerment), three Work Demand Factors (i.e., Emotional Exhaustion, Affective Commitment and Self-Efficacy), and one Organizational Factor (i.e., Top Management

Commitment). In SmartPLS, the orthogonalizing approach was applied to generate interaction effects between the independent variables and the moderator variable. As a result, interaction terms such as (EMPL*RE), (EMPL*TR), (EMPL*TMC), (EMPL*CSO), (EMPL*AOC), (EMPL*EMP), (EMPL*EE), and (EMPL*SE) were created.

The results, presented in Table 4, indicate that the moderating effects of EMPL were significant for the paths from Top Management Commitment (TMC), Customer Service Orientation (CS), and Self-Efficacy (SE) to Service Recovery Performance (SRP). Specifically, significant positive associations were found for TMC (β = 0.143, t = 2.390, p = 0.008), CSO (β = 0.104, t = 1.989, p = 0.023), and SE (β = 0.130, t = 2.402, p = 0.008). However, the moderating effects for Rewards (RE) (β = -0.056, t = 1.358, p = 0.087), Training (TR) (β = -0.01, t = 0.223, p = 0.412), Empowerment (EMP) (β = 0.060, t = 1.218, p = 0.112), Emotional Exhaustion (EE) (β = 0.038, t = 0.852, p = 0.197), and Affective Commitment (AOC) (β = -0.063, t = 1.051, p = 0.147) were statistically insignificant, providing no support for their moderating role in the relationship with SRP.

Table 4. Moderating effects results

Path	Path Coefficient (β)	T-value	P-values	Hypothesis test
EMPL*TMC → SRP	0.143	2.390	0.008	Supported
EMPL*RE → SRP	-0.056	1.358	0.087	Not Supported
EMPL*TR → SRP	-0.010	0.223	0.412	Not Supported
EMPL*EMP → SRP	0.060	1.218	0.112	Not Supported
EMPL*CSO → SRP	0.104	1.989	0.023	Supported
EMPL* EE → SRP	0.038	0.852	0.197	Not Supported
EMPL*AOC → SRP	-0.063	1.051	0.147	Not Supported
EMPL*SE → SRP	0.130	2.402	0.008	Supported

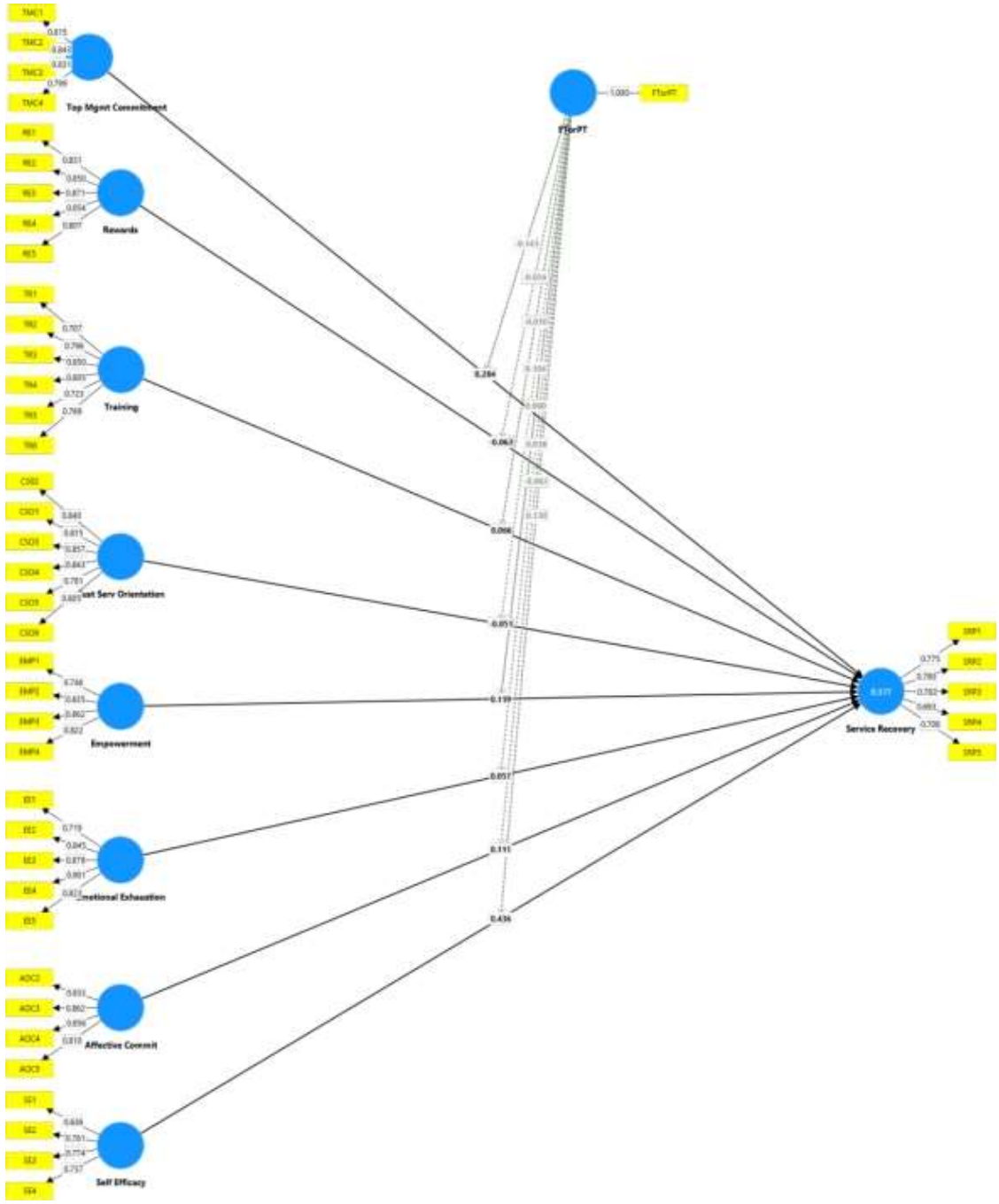

Figure 2. PLS algorithm results

5. Discussion and conclusion

This study confirms that top management commitment is a key driver of service recovery performance, emphasising the critical role of leadership in fostering a culture of accountability and excellence. The findings align with previous research[4], which highlights that leadership support is essential for the success of service recovery initiatives. Senior executives play a crucial role in setting service recovery standards, providing necessary resources, and empowering employees to resolve service failures effectively[2]. Without visible and consistent leadership commitment, employees may perceive service recovery efforts as low-priority and reduce their effectiveness [105].

This study examined the relationship between work resource factors and service recovery performance, revealing that employee empowerment had a significant positive impact[106]. Consistent with existing literature, empowerment enables educators to respond effectively to service issues by granting them autonomy, authority, and resources to resolve student concerns[4]. Although institutional constraints such as hierarchical structures and standardised policies exist[107], empowered educators can still enhance service recovery by leveraging their decision-making abilities, communication skills, and emotional intelligence[58]. In contrast, rewards have no significant effects, suggesting that financial incentives alone may not sufficiently motivate educators[6,46]. The limited impact of training may reflect the complex nature of education, where experience and interpersonal skills play a greater role than formal instruction[45]. Similarly, the non-significant effect of customer service indicates that education relies more on institutional policies and collaborative resolution rather than individual customer service orientation, diminishing its direct impact on recovery performance[2].

This study found that affective organizational commitment and self-efficacy had significant positive effects on service recovery performance, while emotional exhaustion showed no significant impact. Affective organizational commitment enhances service recovery performance by fostering emotional attachment and alignment with organizational goals, leading employees to be more engaged, responsive, and accountable in addressing service failures[58,62]. Similarly, self-efficacy emerged as a crucial predictor of service recovery success, as confidence in one's ability to resolve issues motivates proactive problem-solving and resilience, particularly in education settings where educators often operate autonomously[108]. Surprisingly, emotional exhaustion did not significantly affect service recovery performance, suggesting that educators' intrinsic motivation and coping mechanisms help sustain their commitment to resolving student concerns despite fatigue[109].

The study found that employment status significantly moderated the relationships between top management commitment, customer service orientation, self-efficacy, and service recovery performance[110]. Top management commitment remained a strong predictor of service recovery performance, reinforcing the role of leadership support in fostering effective service recovery behaviours[111]. Similarly, employment status influenced the strength of the relationship between customer service orientation and service recovery performance, indicating that those with a stronger customer service orientation were more effective in service recovery depending on their employment status[112]. Additionally, self-efficacy's impact on service recovery performance was moderated by employment status, suggesting that confidence in one's abilities contributed differently to service recovery outcomes based on employment conditions[41]. These findings emphasise the nuanced role of employment status in shaping how key organizational and individual factors influence service recovery performance[113].

This study offers significant theoretical and practical implications for enhancing service recovery performance in ODL. Theoretically, the research extends Equity Theory by demonstrating how factors like

top management commitment, empowerment, affective commitment, and self-efficacy positively influence service recovery, while rewards and customer service orientation showed no significant impact[114]. These findings highlight the need for institutions to align reward systems with service outcomes and tailor empowerment strategies to the education sector[115]. Practically, the study emphasises the importance of managerial interventions, including targeted training, policies that enhance organizational commitment, and strategies to mitigate emotional exhaustion[116]. Institutions must ensure equitable support for both full-time and part-time educators while fostering a strong customer service culture through clear service recovery protocols[117]. By addressing these factors, ODL institutions can improve student satisfaction, strengthen institutional reputation, and maintain a competitive edge in the evolving education landscape[118].

This study offers valuable insights into the factors influencing service recovery performance in ODL environments, underscoring the critical roles of organizational, work resource, and work demand factors, with employment status as a key moderator[119]. While these contributions are noteworthy, further research is needed to enhance the study's applicability. Future studies should incorporate longitudinal approaches and a broader geographical scope to improve representativeness[120]. Examining factors such as supervisory support, burnout, work-family conflict, and service leadership would provide a more holistic understanding of service recovery performance. Additionally, investigating moderating variables like gender and personality traits, as well as conducting comparative analyses between public and private ODL institutions, could yield deeper insights[121] . Addressing these areas will strengthen the current framework and guide management strategies to foster a robust service culture and improve student satisfaction in ODL settings[122]. Ultimately, this study provides a vital foundation for enhancing service recovery performance, offering key insights to shape more effective institutional policies and elevate the overall student experience.

Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)

The authors equally contributed in the present research, at all stages from the formulation of the problem to the final findings and solution.

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Conflict of Interest

The authors declare no conflict of interest.

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