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RESEARCH ARTICLE

Service failure and recovery in revenue administration: An empirical study of taxpayer satisfaction in Ethiopia

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Abstract: This study examines the incidence and types of service failures encountered by taxpayers in the Ethiopian Ministry of Revenue and evaluates the effectiveness of organizational recovery responses in shaping taxpayer satisfaction. Drawing upon justice theory and the disconfirmation paradigm, the research investigates the relationship between service failure types, organizational recovery responses, and taxpayer satisfaction across three branch offices in Addis Ababa. Using a quantitative explanatory research design, data were collected from 388 taxpayers through structured questionnaires, with a response rate of 90.3%. The findings reveal an alarmingly high service failure rate of 86.9%, with discomfort from employee and departmental service, management decision delays, and procedural problems identified as the most prevalent failure types. Critically, 42.6% of affected taxpayers received no organizational response, and 61.7% received no compensation. Multiple regression analysis demonstrates that distributive justice ($B = 0.424$, $p < 0.001$), interactional justice ($B = 0.415$, $p < 0.001$), and procedural justice ($B = 0.213$, $p < 0.001$) are all significant predictors of taxpayer satisfaction, collectively explaining 72.4% of the variance. The study highlights the urgent need for systematic service recovery strategies in revenue administration and provides empirical evidence to guide policy reforms aimed at improving taxpayer satisfaction and voluntary compliance in developing country contexts.

Keywords: Service failure, Service recovery, Taxpayer satisfaction, Revenue administration, Justice theory, Ethiopia, Public sector

Introduction

Revenue administration constitutes a fundamental pillar of governance in any nation, serving as the primary mechanism through which governments finance public services, infrastructure, and social welfare programs. The effectiveness of revenue administration directly influences a country's fiscal capacity, economic stability, and the social contract between citizens and the state. In this context, the quality of service provided by revenue authorities assumes critical importance, as it shapes taxpayer perceptions of governmental legitimacy, fairness, and trustworthiness. When service failures occur in tax administration, they not only inconvenience individual taxpayers but also threaten the broader goals of voluntary compliance and revenue mobilization that underpin effective governance.

Service failures in public sector organizations are particularly consequential because citizens typically have no alternative service providers. Unlike private sector contexts where dissatisfied customers can switch to competitors, taxpayers are obligated to interact with the designated revenue authority regardless of their satisfaction levels. This captive relationship creates a unique dynamic in which service failures may be tolerated with less vocal complaint behavior but may generate deeper resentment, reduced trust, and increased propensity for tax evasion or avoidance. Research has consistently demonstrated that customer satisfaction in service encounters is generally lower for services than for physical products, and this gap is

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often more pronounced in public sector services where monopolistic conditions and bureaucratic structures impede service quality improvements (Zeithaml et al., 2013).

The Ethiopian Ministry of Revenue, established through the merger of the Ministry of Revenues, the Ethiopian Customs Authority, and the Federal Inland Revenues in 2008, bears responsibility for collecting customs duties and domestic taxes from over 13,000 active taxpayers in Addis Ababa alone. Despite its mandate to provide equitable, efficient, and quality service, preliminary evidence and anecdotal reports suggest that taxpayers frequently encounter a range of service failures including procedural delays, unresponsive staff, inadequate communication, and insufficient compensation for organizational errors. However, systematic empirical investigation of these service failures and their consequences for taxpayer satisfaction has been notably lacking in the Ethiopian context and, more broadly, in the literature on revenue administration in developing countries.

This study addresses this gap by pursuing three primary objectives: (1) to identify and categorize the types of service failures encountered by taxpayers in the Ethiopian Ministry of Revenue, (2) to assess the organizational responses to these failures and their perceived fairness, and (3) to empirically determine the effects of perceived justice dimensions on taxpayer satisfaction following service failures. By examining these issues through the lens of justice theory, the study contributes to both the theoretical understanding of service recovery in public administration and the practical improvement of revenue services in Ethiopia and similar developing country contexts.

Literature Review

Service failure in public administration

Service failure is generally described as service performance that falls below a customer's expectations, leading to dissatisfaction (Wilson et al., 2016). In public sector contexts, service failures can manifest in various forms including bureaucratic delays, unresponsive or discourteous staff, incorrect information, inadequate facilities, and failure to deliver promised outcomes. The consequences of service failures in public administration extend beyond individual dissatisfaction to affect institutional legitimacy, citizen trust, and compliance behavior. When citizens perceive that government agencies fail to deliver services adequately, their willingness to comply with governmental obligations such as tax payment may diminish, creating a vicious cycle of reduced compliance and deteriorating service quality.

Research on service failure in public sector organizations has identified several distinctive characteristics that differentiate it from private sector service failure. First, the mandatory nature of many public services means that customers cannot simply exit the relationship when dissatisfied; instead, they may engage in voice behavior, negative word-of-mouth, or reduced compliance. Second, public sector service failures often involve complex bureaucratic procedures that make recovery more challenging, as frontline employees may lack the authority or resources to implement effective recovery measures. Third, the political dimensions of public service delivery mean that service failures can have implications for governmental legitimacy and electoral accountability that go beyond the commercial consequences faced by private firms.

In the specific context of revenue administration, service failures are particularly problematic because they directly affect the relationship between taxpayers and the state. Potluri and Mangnale (2011) noted that nearly half of customers are dissatisfied by services provided by both public and private sectors in Ethiopia, including the Ministry of Revenue. Studies on the former Ethiopian Revenue and Customs Authority revealed that revenue offices operated with insufficient facilities and equipment, and that the knowledge, attitude, and willingness of service providers to support customers were below expected levels (Demirew et al., 2015; Tewodros, 2015). These findings highlight the systemic nature of service quality challenges in Ethiopian revenue administration and underscore the need for evidence-based interventions.

Service recovery and the justice framework

Service recovery refers to the actions taken by an organization in response to a service failure, with the aim of rectifying the problem and restoring customer satisfaction (Wilson et al., 2016). The effectiveness of service recovery is critically important because research has demonstrated that customers who experience effective recovery after a failure may become more loyal than customers who never experienced a problem in the first place, a phenomenon known as the service recovery paradox (McCollough et al., 2000; Maxham et al., 2001). However, the paradox does not always hold; poor recovery can exacerbate the negative effects of the original failure, leading to a double deviation effect that severely damages the customer relationship.

Justice theory provides the dominant theoretical framework for understanding how customers evaluate service recovery efforts. The theory proposes that customers assess recovery fairness along three dimensions: distributive justice, which concerns the fairness of outcomes received; procedural justice, which relates to the fairness of policies and processes governing the recovery; and interactional justice, which involves the quality of interpersonal treatment during the recovery encounter (Blodgett et al., 1997; McColl-Kennedy et al., 2003; Tax et al., 1998). This tripartite framework has been extensively validated across diverse service contexts and cultures, and it provides a comprehensive lens through which to examine taxpayer evaluations of recovery efforts in revenue administration.

The application of justice theory to revenue administration is particularly appropriate because taxation inherently involves issues of fairness and equity. Taxpayers who perceive that the revenue authority treats them unfairly during service encounters are likely to generalize this perception to the tax system as a whole, potentially undermining voluntary compliance. The confirmation-disconfirmation paradigm further explains that taxpayer satisfaction is determined by the gap between their expectations and their perceptions of actual service recovery performance. When recovery performance exceeds expectations, positive disconfirmation occurs, leading to higher satisfaction; when it falls short, negative disconfirmation leads to dissatisfaction (Oliver et al., 1997).

Empirical evidence on service recovery in public and private sectors

Empirical research on service recovery has been conducted across various service contexts, with the majority of studies focusing on private sector settings. McCollough et al. (2000) investigated customer satisfaction after service failure and recovery in the airline industry, finding that satisfaction following recovery was lower than in error-free service, challenging the service recovery paradox. Sparks and McColl-Kennedy (2001) examined justice strategy options for service recovery in Australian hotels, demonstrating that different combinations of justice dimensions produced significantly different satisfaction outcomes. Cheng et al. (2018) confirmed the positive relationship between service recovery dimensions and customer satisfaction in Malaysia's hotel industry, while Ibrahim et al. (2014) established similar findings in Uganda's telecommunications sector.

In the public sector context, however, empirical evidence remains limited. The few studies that have examined service recovery in public organizations have generally found that recovery efforts are less systematic and less effective than in the private sector, largely due to bureaucratic constraints, limited employee empowerment, and absence of market-driven incentives for service improvement. Assefa (2014) studied service recovery in Ethiopian retail banks and found significant effects of perceived justice on customer satisfaction, but the banking sector, while regulated, operates with greater market orientation than revenue administration. The current study extends this line of inquiry by examining service failure and recovery specifically in the context of Ethiopian revenue administration, where the dynamics of the taxpayer-authority relationship create a distinctive environment for service recovery evaluation.

Research Methodology

Research design and setting

This study adopted an explanatory research design within a quantitative research approach. The explanatory design was appropriate for establishing cause-and-effect relationships between the perceived justice dimensions of service recovery and taxpayer satisfaction. The study was conducted in Addis Ababa, Ethiopia, where the majority of government head offices including the Ministry of Revenue are located, and where the majority of government revenue is collected. The quantitative approach enabled systematic measurement of variables through structured instruments and statistical testing of hypothesized relationships, facilitating generalization of findings to the broader taxpayer population.

Population, sampling, and sample size

The target population comprised 13,014 active taxpayers registered across three branches of the Ethiopian Ministry of Revenue in Addis Ababa: the Large Taxpayers Branch (793 taxpayers), the Medium Taxpayers Branch (4,448 taxpayers), and the West Addis Ababa Small Taxpayers Branch (7,773 taxpayers). Cluster sampling was employed because the population was heterogeneous across taxpayer categories and because this technique provides practical advantages in accessing naturally occurring organizational groupings. The sample size was determined using Yamane's (1967) formula at a 5% precision level, yielding a sample of 388 taxpayers. Proportional allocation distributed the sample across clusters as follows: 24 from the Large Taxpayers Branch, 132 from the Medium Taxpayers Branch, and 232 from the Small Taxpayers Branch. This allocation ensured that each taxpayer category was represented in proportion to its share of the total population.

Data collection

Data were collected through structured self-administered questionnaires comprising three sections. The first section captured demographic information and service failure experience, including whether the respondent had encountered a service failure, the type of failure experienced, the organizational response received, and whether compensation was provided. The second section measured the three perceived justice dimensions using items adapted from established scales in the service recovery literature, with responses recorded on a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). Procedural justice items assessed fairness and accessibility of organizational policies; interactional justice items measured employee courtesy, empathy, and effort; and distributive justice items evaluated the adequacy and fairness of outcomes received. The third section measured overall customer satisfaction with the service recovery process. The questionnaire was pre-tested on non-sample taxpayers and refined based on expert review. Internal consistency was verified through Cronbach's alpha, with values of 0.801 (procedural justice), 0.870 (interactional justice), 0.712 (distributive justice), and 0.808 (customer satisfaction), all exceeding the 0.70 threshold.

Data analysis

Data analysis proceeded through several stages. First, descriptive statistics including frequencies, percentages, means, and standard deviations were computed to characterize the sample and summarize variable distributions. Second, Pearson correlation analysis examined bivariate relationships between variables. Third, multiple linear regression analysis determined the independent effects of each perceived justice dimension on taxpayer satisfaction while controlling for other variables. The regression model was specified as $CS = b0 + b1PJ + b2IJ + b3DJ + e$, where CS denotes customer satisfaction, PJ denotes procedural justice, IJ denotes interactional justice, DJ denotes distributive justice, and e denotes the error term. Diagnostic tests for normality, multicollinearity, autocorrelation, and heteroscedasticity were conducted prior to regression analysis. All analyses were performed using SPSS version 20.

Results and Analysis

Response rate and respondent profile

Of the 388 questionnaires distributed, 350 were returned completed, yielding a response rate of 90.3%. This response rate substantially exceeds the 50% minimum threshold for adequate analysis and the 70% threshold considered excellent (Mugenda, 1999). The demographic profile of respondents is summarized in Table 1.

Table 1: Demographic characteristics of respondents

Characteristic	Category	Frequency	Percentage
Gender	Male	192	54.9%
	Female	158	45.1%
Age	18-29	127	36.3%
	30-39	164	46.9%
	40-49	54	15.4%
	50+	5	1.4%
Education	Elementary or below	24	6.9%
	Secondary school	15	4.3%
	Certificate/Diploma	92	26.3%
	First degree	199	56.9%
	Master's and above	20	5.7%
Taxpayer Category	Small	203	58.0%
	Medium	125	35.7%
	Large	22	6.3%

The sample was relatively balanced in terms of gender, with males constituting a slight majority. The dominant age group was 30-39 years, representing the economically active population that frequently interacts with the revenue authority. Most respondents held at least a first degree, indicating a relatively well-educated sample that can meaningfully evaluate service quality. Small taxpayers dominated the sample, consistent with their proportional representation in the population.

Incidence and types of service failures

A central finding of this study is the exceptionally high incidence of service failures reported by taxpayers. Of the 350 respondents, 304 (86.9%) reported having experienced a service failure at the Ministry of Revenue, while only 46 (13.1%) reported no such experience. This rate of service failure is remarkably high by any standard and indicates systemic deficiencies in the quality of service delivery at the Ministry of Revenue. The types of service failures reported by respondents are detailed in Table 2.

Table 2: Types of service failures encountered

Type of Service Failure	Frequency	Percentage	Rank
Discomfort on service by employees/departments	103	29.4%	1
Delay of decision by management	83	23.7%	2
Problem on procedures followed	82	23.4%	3
Employee failure in customer handling	41	11.7%	4
Communication problem of workers	41	11.7%	4

The most prevalent service failure type was discomfort with the service provided by employees and departments, reported by nearly one-third of respondents. This category encompasses a range of experiences including perceived rudeness, lack of attention, and inadequate service delivery by organizational units. Management decision delays constituted the second most common failure type, reflecting bureaucratic inefficiencies in the organizational hierarchy. Procedural problems ranked third, highlighting issues with the rules and processes that taxpayers must navigate to access services. Employee failure in customer handling and communication problems were reported with equal frequency, each affecting approximately one in nine respondents.

Organizational response to service failures

The study also examined the types of responses provided by the Ministry of Revenue following service failures, with results revealing significant deficiencies in organizational recovery efforts. Table 3 presents the distribution of organizational responses.

Table 3: Organizational response to service failures

Type of Response	Frequency	Percentage
No response received	149	42.6%
Explanation provided	124	35.4%
Apology given	49	14.0%
Compensation provided	28	8.0%

The most striking finding is that 42.6% of respondents who experienced service failures received no response whatsoever from the organization. This represents a fundamental failure of service recovery, as the organization effectively ignored nearly half of all service failure incidents. Among those who received some form of response, explanations about the failure were the most common (35.4%), followed by apologies (14%), with compensation being the rarest response (only 8%). Furthermore, when asked specifically about compensation, 61.7% of respondents indicated they were not compensated for the inconveniences caused by service failures, while only 38.3% reported receiving any form of compensation.

These findings reveal a significant gap between the principles of effective service recovery and the actual practices of the Ministry of Revenue. The dominant pattern of no response or explanation-only responses suggests that the organization has not implemented systematic service recovery procedures. The low rate of compensation is particularly concerning from a distributive justice perspective, as it indicates that taxpayers bear the costs of organizational failures without receiving commensurate redress.

Perceived justice and taxpayer satisfaction

Descriptive analysis of the three perceived justice dimensions revealed predominantly negative taxpayer perceptions. For procedural justice, the highest disagreement (40.3%) concerned whether rules and processes for seeking fairness were simple and attractive, followed by 38.9% who disagreed that organizational policies were flexible and considerate. For interactional justice, the highest disagreement (47.7%) related to whether employees apologized for failures and handled cases professionally, followed by 42% who disagreed that employees were polite and willing to help. For distributive justice, 40.6% disagreed that corrections and answers given for complaints were adequate, and 36% disagreed that the organization's responses accurately provided right solutions.

The relative importance rankings provided by respondents indicated that interactional justice was perceived as the most important dimension (36.9%), followed by distributive justice (32%), and procedural justice (30.6%). This ranking is consistent with the regression results, which showed interactional justice as the strongest predictor of satisfaction based on standardized coefficients.

Regression analysis

Multiple regression analysis was conducted after confirming that all assumptions of the classical linear regression model were met. The Durbin-Watson statistic of 1.510 indicated no serious autocorrelation. VIF values (1.777, 1.437, and 1.990 for procedural, interactional, and distributive justice respectively) confirmed the absence of multicollinearity. The normal probability plot and residual scatter plot confirmed normality and homoscedasticity respectively.

The overall model was statistically significant ($F(3, 346) = 306.574$, $p < 0.001$), with R-squared = 0.727 and Adjusted R-squared = 0.724. This indicates that the three perceived justice dimensions collectively explain approximately 72.4% of the variance in taxpayer satisfaction, with the remaining 27.6% attributable to other factors not included in the model.

Table 4: Multiple regression results

Predictor	B	SE	Beta	t	p
(Constant)	-0.187	0.095		-1.968	0.050
Procedural Justice	0.213	0.040	0.200	5.333	0.000
Interactional Justice	0.415	0.033	0.424	12.593	0.000
Distributive Justice	0.424	0.043	0.390	9.833	0.000

All three predictors made statistically significant contributions to the model. Distributive justice had the highest unstandardized coefficient (B = 0.424), indicating that a one-unit increase in perceived distributive justice is associated with a 0.424 increase in taxpayer satisfaction. Interactional justice followed closely (B = 0.415), while procedural justice had the smallest but still significant coefficient (B = 0.213). In terms of standardized coefficients (beta), interactional justice made the strongest unique contribution (beta = 0.424), followed by distributive justice (beta = 0.390), and procedural justice (beta = 0.200). The regression equation is: $CS = -0.187 + 0.213PJ + 0.415IJ + 0.424DJ$.

Discussion

This study provides a comprehensive examination of service failures, organizational recovery responses, and their effects on taxpayer satisfaction in the Ethiopian Ministry of Revenue. The findings reveal several important insights that contribute to both theoretical understanding and practical improvement of service delivery in revenue administration.

The exceptionally high service failure rate of 86.9% is a finding of considerable concern. This rate significantly exceeds the service failure rates typically reported in private sector studies, where rates generally range from 15% to 40% depending on the industry (Maxham et al., 2001; Tax et al., 1998). The magnitude of this failure rate in the Ethiopian Ministry of Revenue suggests deeply entrenched systemic problems in service delivery, encompassing human resource deficiencies, procedural inefficiencies, and organizational culture issues. The dominance of employee- and department-related discomfort as the leading failure type underscores the importance of human factors in service delivery, while the prevalence of management delays and procedural problems highlights structural and process-related shortcomings.

The organizational response patterns reveal a deeply troubling picture of service recovery practices. The fact that 42.6% of service failures elicited no organizational response represents a critical failure of basic service recovery. This finding is particularly significant because research consistently shows that a complete lack of response to service failure is the worst possible outcome from a customer satisfaction perspective, often leading to greater dissatisfaction than the original failure itself (Zeithaml et al., 2009). The predominance of explanation-only responses (35.4%) suggests that the organization relies on verbal communication rather than substantive redress, which may be perceived as insufficient by taxpayers who have incurred tangible costs in terms of time, effort, and inconvenience. The extremely low rate of compensation (8%) further indicates that the Ministry of Revenue has not established formal mechanisms for providing restitution to taxpayers affected by service failures.

The regression results demonstrating that all three perceived justice dimensions significantly predict taxpayer satisfaction are consistent with the broader service recovery literature (Blodgett et al., 1997; Tax et al., 1998; Cheng et al., 2018). However, the relative importance of interactional justice (beta = 0.424) as the strongest predictor merits particular attention. This finding suggests that in the context of Ethiopian revenue administration, how taxpayers are treated during the recovery process matters more than what they receive or how the process is structured. This may reflect the cultural context in which interpersonal respect and dignified treatment are highly valued, as well as the practical reality that most taxpayers receive little or no tangible compensation, making interpersonal treatment the primary basis for satisfaction evaluation.

The significant but weaker effect of procedural justice (beta = 0.200) may reflect the inherent rigidity of bureaucratic procedures in government organizations. Unlike private firms that can adapt their procedures to individual customer circumstances, revenue authorities must adhere to statutory and regulatory frameworks that limit procedural flexibility. This structural constraint may dampen the influence of procedural justice on satisfaction, as taxpayers may have lower expectations for procedural fairness in government settings and may attribute procedural deficiencies to systemic rather than intentional causes.

The strong effect of distributive justice (beta = 0.390) reinforces the importance of tangible outcomes in satisfaction formation. Despite the low rate of actual compensation observed in the study, taxpayers clearly value fair and adequate outcomes when they do receive them. This finding suggests that establishing formal compensation and restitution mechanisms could significantly improve taxpayer satisfaction, even if the existing organizational culture does not currently prioritize such measures.

The combined explanatory power of the model (Adjusted R-squared = 0.724) is notably high, suggesting that perceived justice dimensions are particularly important determinants of satisfaction in the context of revenue administration. The mandatory nature of the taxpayer-authority relationship may amplify the importance of justice perceptions, as taxpayers who cannot exit the relationship may be more attuned to fairness considerations in their satisfaction evaluations.

Conclusion and Recommendations

Conclusion

This study has documented the alarming incidence of service failures in the Ethiopian Ministry of Revenue, characterized the organizational responses to these failures, and empirically demonstrated the significant effects of perceived justice dimensions on taxpayer satisfaction. The findings paint a picture of a revenue administration that experiences frequent service failures and lacks systematic recovery mechanisms, resulting in widespread taxpayer dissatisfaction. The 86.9% service failure rate, the 42.6% non-response rate, and the 61.7% non-compensation rate collectively indicate that the Ministry of Revenue is falling far short of the service quality standards that taxpayers expect and deserve.

The regression analysis confirms that justice theory provides a robust framework for understanding taxpayer satisfaction following service failures in revenue administration. All three perceived justice dimensions significantly predict satisfaction, with interactional justice emerging as the most influential factor, followed by distributive justice and procedural justice. These findings underscore the multifaceted nature of satisfaction formation in service recovery contexts and highlight the need for comprehensive recovery strategies that address all three justice dimensions simultaneously.

Recommendations for practice

Based on the findings, the following recommendations are offered for the Ethiopian Ministry of Revenue and similar revenue administration organizations. First, the Ministry should establish a formal service recovery system with documented procedures, defined timelines, and accountability mechanisms. The current ad hoc approach to service recovery, as evidenced by the high non-response rate, must be replaced with a structured system that ensures every service failure receives appropriate organizational attention. Second, employee training programs should be prioritized, focusing on customer service skills, empathy development, complaint handling, and professional communication. Given the strong influence of interactional justice on satisfaction, investment in frontline employee capabilities is likely to yield the greatest returns in terms of taxpayer satisfaction improvement. Third, the Ministry should implement clear compensation and restitution policies that define appropriate remedies for different types of service failures, including formal apology mechanisms, service credits, expedited processing, and in appropriate cases, financial compensation. Fourth, procedures should be simplified and digitized where possible, with electronic payment systems, online complaint submission, and real-time tracking of complaint resolution to enhance procedural justice perceptions.

Recommendations for future research

Future research should address several limitations of the current study. Qualitative approaches including in-depth interviews and focus group discussions would provide richer understanding of the service failure and recovery experiences from both taxpayer and employee perspectives. Longitudinal studies could examine how satisfaction evolves over time following service recovery and whether the effects of justice perceptions persist or diminish. Comparative studies across different branches and regions of Ethiopia, as well as cross-country comparisons with other African revenue authorities, would enhance the generalizability of findings. Finally, incorporating additional variables such as organizational culture, employee empowerment, technology adoption, and cultural factors would provide a more comprehensive model of service recovery effectiveness in revenue administration.

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