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Customer Support Ticket Prioritization

BUSINESS INTELLIGENCE ANALYSIS REPORT

Executive Summary

This Business Intelligence (BI) report presents an analytical review of historical customer support ticket data to support the Business Requirements Document (BRD) titled "**Customer Support Ticket Handling and Prioritization Enhancement.**"

The primary objective of this analysis is to evaluate how ticket priorities are currently distributed and applied across different operational contexts, including queues, ticket types, languages, versions, and contextual tags. The report focuses on identifying observable patterns, variations, and potential inconsistencies in priority assignment, without proposing technical solutions or operational changes.

The analysis is based solely on available ticket metadata and is intended to provide management with descriptive and diagnostic insights that support governance, review, and alignment discussions related to ticket prioritization practices.

Tools

Business Context & Alignment with BRD

The BRD highlights a key business concern :
ticket prioritization relies heavily on individual interpretation, which may result in inconsistent handling of tickets across helpdesk agents and operational queues.

In line with the BRD :

- The scope of this BI report is analytical, not prescriptive
- No system design, automation, SLA definition, or technical implementation is included
- The focus is on understanding current-state patterns using historical ticket data

This report directly supports the BRD by :

- Providing visibility into how priorities are actually assigned
- Identifying areas where prioritization patterns differ across similar contexts
- Enabling governance-oriented review of prioritization consistency

Data Scope & Assumptions

Data Scope

Ticket subject	Short textual description of the customer request
Response metadata	Recorded response or answer associated with the ticket
Priority level	Assigned priority classification for the ticket
Operational queue	Support queue responsible for handling the ticket
Ticket type	Classification of the ticket based on request nature
Language	Language used in the ticket content
Version	Product or system version associated with the ticket
Tag	Contextual labels used to describe ticket content

Key Assumptions

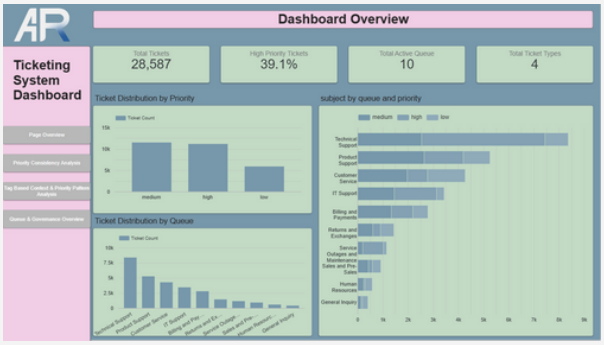
The dataset does not include time-based attributes
No explicit ticket status lifecycle is available
Priority analysis therefore focuses on distribution and consistency, not performance or timeliness

These assumptions are consistent with the BRD, which notes that detailed time-stamped operational data is not available and that the project scope emphasizes prioritization understanding rather than execution performance.

Analytical Approach

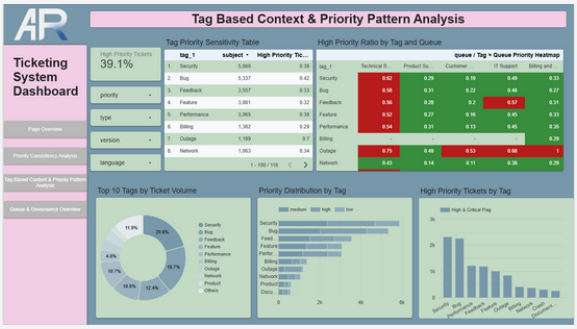
The BI dashboard supporting this report is structured into four analytical pages, each addressing a specific business question :

Executive Overview

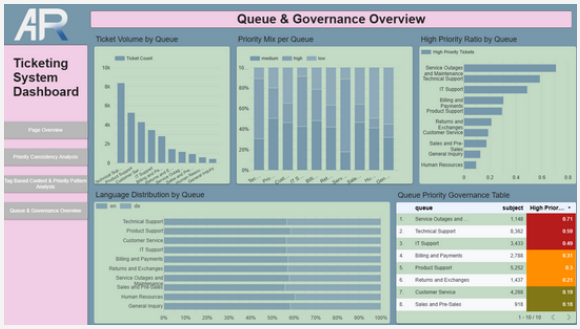


Priority Consistency Analysis

Tag-Based Context & Priority Pattern Analysis



Queue & Governance Overview

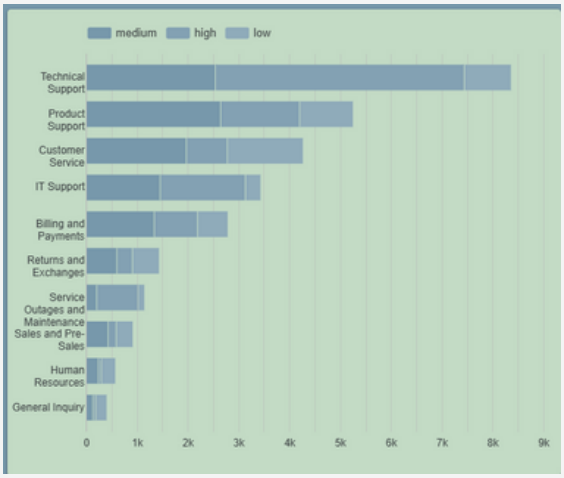


These pages provide a progressive analytical narrative, moving from high level visibility to detailed governance oriented insights.

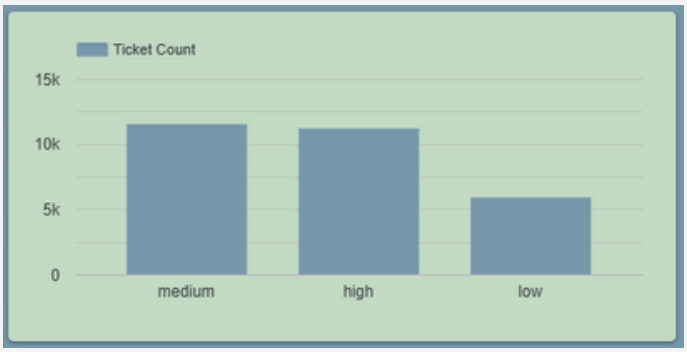
Executive Overview

The analysis covers a total of 28,587 customer support tickets recorded in the dataset.

- **39.1**% of tickets are classified as **High Priority**, indicating that a substantial portion of incoming tickets are treated as urgent.
- **Tickets** are distributed across **10 active operational queues**, reflecting a relatively complex handling structure.
- The dataset includes **4 ticket types**, suggesting moderate variation in ticket classification.



At the queue level, ticket volume is unevenly distributed. **Technical Support** handles the **largest** share of tickets (over **8,000 tickets**), followed by Product Support, Customer Service, and IT Support, while queues such as Human Resources and General Inquiry handle comparatively small volumes.



Priority distribution shows that **Medium** and **High priority** tickets **dominate** the overall volume, while Low priority tickets represent a smaller share. This indicates that a significant portion of support activities is concentrated on tickets perceived as having higher urgency.

Priority Consistency Analysis

A deeper examination of priority application reveals material variation across queues and contexts.

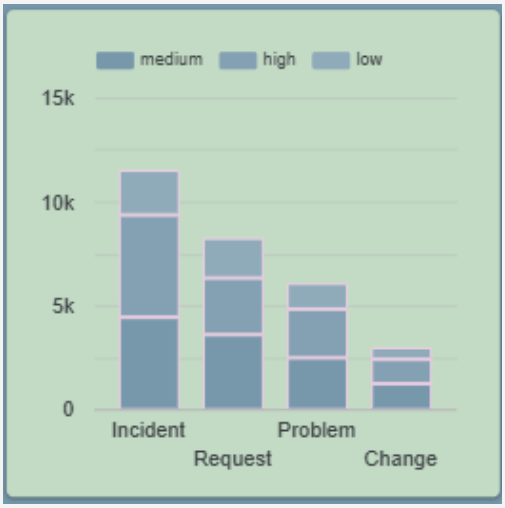
queue	subject	High Priority Tickets
Service Outages and ...	1,148	0.71
Technical Support	8,362	0.59
IT Support	3,433	0.49

At the queue level

- **Service Outages and Maintenance** shows the highest concentration of High Priority tickets, with a High Priority ratio of approximately 71%.
- **Technical Support** follows with a High Priority ratio of around 59%.
- **IT Support** records a High Priority ratio close to 49%.
- In contrast, **Customer Service** and **Sales and Pre-Sales show** substantially lower High Priority ratios, below 20%.

When analyzed by ticket type :

- Incidents account for the largest ticket volume (11,466 tickets) and show a High Priority ratio of approximately 43%.
- Changes exhibit a similar sensitivity, with a High Priority ratio of around 40%.
- Problems show a slightly lower High Priority ratio, at approximately 39%.



	type / High Priority Tickets			
queue	Incident	Change	Problem	Request
Service Outa...	0.69	0.75	0.7	0.72
Technical Su...	0.59	0.62	0.59	0.57
IT Support	0.5	0.49	0.47	0.49

The Queue × Type Priority Matrix highlights notable **inconsistencies.**
For example, the same ticket type may show High Priority ratios above 70% in one queue, while remaining below 50% in another, demonstrating variation in how similar tickets are interpreted across operational units.

Tag Based Context & Priority Pattern Analysis

Tag-based analysis provides additional insight into the contextual drivers of High Priority assignment.

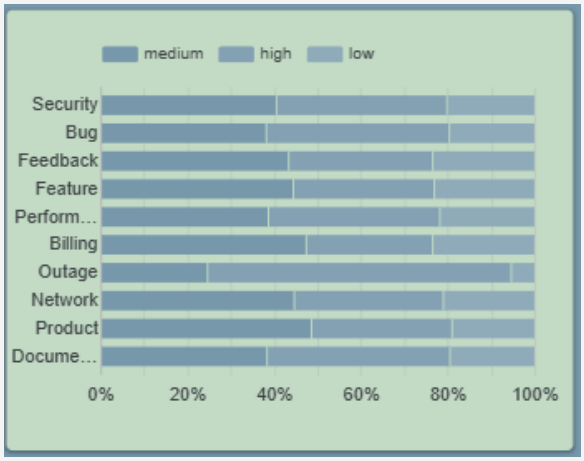
	tag_1	subject	High Priority Tic...
1.	Security	5,880	0.39
2.	Bug	5,337	0.42
3.	Feedback	3,557	0.33
4.	Feature	3,081	0.32
5.	Performance	3,065	0.39

The most frequent tags :

- Security (5,880 tickets)
- Bug (5,337 tickets)
- Feedback (3,557 tickets)
- Feature (3,081 tickets)
- Performance (3,065 tickets)

High Priority sensitivity varies significantly by tag:

- **Bug tickets** show a **High Priority** ratio of approximately **42%**.
- **Security tickets** show a **High Priority** ratio of around **39%**.
- **Outage-related tags** demonstrate the **highest sensitivity**, with High Priority ratios reaching **70–75% in certain queues.**
- **Lower-impact tags** such as **Product** show High Priority ratios closer to **30%.**



queue / Tag × Queue Priority Heatmap

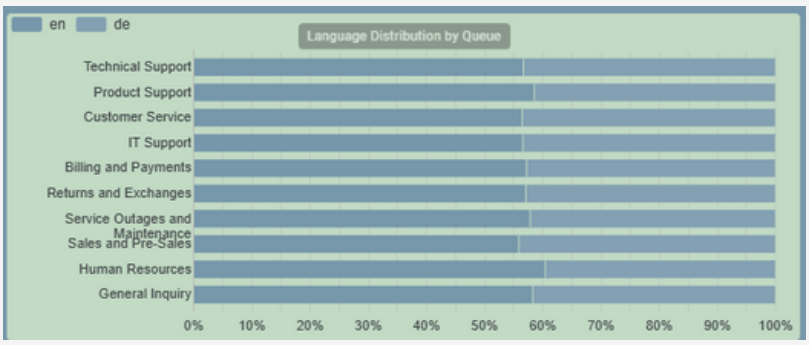
tag_1	Technical S...	Product Su...	Customer ...	IT Support	Billing and ...
Security	0.62	0.29	0.19	0.49	0.33
Bug	0.58	0.31	0.22	0.48	0.27
Feedback	0.56	0.28	0.2	0.57	0.31
Feature	0.52	0.27	0.16	0.45	0.33
Performance	0.54	0.31	0.13	0.45	0.35
Billing	-	-	-	-	0.29
Outage	0.75	0.49	0.53	0.68	1
Network	0.43	0.14	0.11	0.38	0.29

The Tag × Queue Priority Heatmap reveals that **identical tags may receive different priority treatment depending on the queue.**

Queue & Governance Overview

	queue	subject	High Prior...
1.	Service Outages and ...	1,148	0.71
2.	Technical Support	8,362	0.59
3.	IT Support	3,433	0.49
4.	Billing and Payments	2,788	0.31
5.	Product Support	5,252	0.3
6.	Returns and Exchanges	1,437	0.21
7.	Customer Service	4,268	0.19
8.	Sales and Pre-Sales	918	0.18

From a governance perspective, queue-level comparison shows clear differentiation in prioritization behavior



Language distribution analysis shows that queues with higher linguistic diversity do not necessarily exhibit higher High Priority ratios, **suggesting that priority variation is more strongly associated with operational context than language complexity alone.**

Key Insights

Key Insights :

- Nearly 4 out of 10 tickets (39.1%) are classified as High Priority.
- High Priority assignment varies significantly across queues, ranging from below 20% to above 70%.
- Certain ticket types and tags consistently exhibit higher sensitivity to High Priority classification.
- The same contextual signals (type or tag) may result in materially different priority outcomes depending on the handling queue.
- These variations are observable and measurable across multiple analytical dimensions.

Conclusion

This analysis demonstrates that ticket prioritization practices exhibit substantial quantitative variation across queues, ticket types, and contextual tags.

While some variation is expected due to operational differences, the observed range of High Priority ratios from under 20% to over 70% indicates that priority interpretation is not uniform across the organization.

By grounding the analysis in 28,587 historical tickets and examining priority behavior across multiple dimensions, this BI report provides a factual baseline to support governance review, alignment discussions, and further business analysis related to ticket prioritization consistency.

This project strengthened the understanding of how Business Intelligence supports organizational decision-making through objective, data-driven analysis that remains aligned with defined business scope and data constraints. Given the absence of time-based attributes, the analysis emphasized priority distribution and consistency rather than performance measurement, while contextual tags were utilized as proxies to interpret ticket themes. The work also reinforced the clear distinction between Business Intelligence and Business Analysis, with BI focused on delivering descriptive and diagnostic insights to inform governance and alignment discussions without prescribing solutions.

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