Service Ticket Analysis –

Objective: A company is looking to update their current IT service ticket handling system by introducing a self-service application for clients to increase goal meet standards for overall closed tickets. Based on a preliminary analysis of all closed tickets for the previous year, a recommendation will be made on which ticket issues the self-service application should be assigned to moving forward, then applied to incoming tickets and monitored for comparison to determine success or failure.

This IT service group is a 24-hour operation divided into three teams. All incoming tickets are assigned to four different priority levels each with set hourly goal target intervals.

Key Data Characteristics:

1. Assigned Team - The team that the support ticket was assigned to. 24-hour operation: Team 1 - 5:00am to 1:00pm (Morning), Team 2 - 1:00pm to 9:00pm (Afternoon), Team 3 - 9:00pm to 5:00am (Overnight), Team 4 (started 2023) - Self-Service Application.

2. Priority Level - The level of support ticket issue (Critical, High, Medium, Low).

3. Goal Achieved - Whether the ticket was resolved within the time limit acceptable for the issue level assigned (Critical – 4 hour resolution, High – 8 hour resolution, Medium – 12 hour resolution, Low – 24 hour resolution).

Preliminary Analysis:

The 2022 data contained 100303 rows of data. Since the focus is on tickets where the goal was met, tickets where goal was not met were eliminated from the analysis. With the remaining 36,831 rows, tickets that were shown to be resolved in less than a minute were removed from consideration as it would be reasonable that it would take at least a minute to assess and resolve any ticket issue of any priority level across any of the current ticket channels (chat, email, phone).

Measurements of Interest:

1. Number of Tickets Closed (Goal Met) – Upon analysis, medium priority level tickets ranked with the highest count closure at 12,506, with the second highest percentage rate of closure at 40.67% (the 1st being low priority tickets at 49.48% with the 2nd highest count closure at 11,392).

2. Number of Tickets Closed w/in Origin Window (Goal Met) - Origin Window is defined as the tickets that were opened and closed by the same team (shift) that met goal. Again, medium priority level cases ranked the highest across all teams (shifts) at 5,579 followed by low priority tickets at 4,699.

Tickets Closed w/in Origin Window (Goal Met) - 2022	0:00:00:59				
Team	**Critical**	**High**	**Low**	**Medium**	**Total**
1	839	1112	1086	1403	4440
2	1400	1698	1718	2240	7056
3	1488	1504	1895	2136	7023
Total	**3727**	**4314**	**4699**	**5779**	**18519**

Ticket Totals by Priority Level - 2022					
Excludes tickets where Resolution Time is less than one minute.					
		No	**Yes**	**Total**	**% (Goal Met)**
Critical	Q1	4434	1232	5666	21.74%
Critical	Q2	4563	1245	5808	21.44%
Critical	Q3	4525	1277	5802	22.01%
Critical	Q4	4578	1261	5839	21.60%
Critical		**18100**	**5015**	**23115**	**21.70%**
High	Q1	3844	1888	5732	32.94%
High	Q2	3913	1915	5828	32.86%
High	Q3	3871	1951	5822	33.51%
High	Q4	3868	1903	5771	32.98%
High		**15496**	**7657**	**23153**	**33.07%**
Low	Q1	2817	2865	5682	50.42%
Low	Q2	2860	2818	5678	49.63%
Low	Q3	3017	2878	5895	48.82%
Low	Q4	2938	2831	5769	49.07%
Low		**11632**	**11392**	**23024**	**49.48%**
Medium	Q1	4545	3034	7579	40.03%
Medium	Q2	4496	3177	7673	41.40%
Medium	Q3	4655	3180	7835	40.59%
Medium	Q4	4548	3115	7663	40.65%
Medium		**18244**	**12506**	**30750**	**40.67%**
Grand Total		**63472**	**36570**	**100042**	

Recommendation:

Medium priority level tickets have both the highest number of tickets closed overall as well as within Origin Window however the ticket issues assigned with this level are Hardware Issue and Installation assistance and do not lend themselves well to a self-service application as do those of low priority tickets (Cancellation request, Billing inquiry, and refund request).
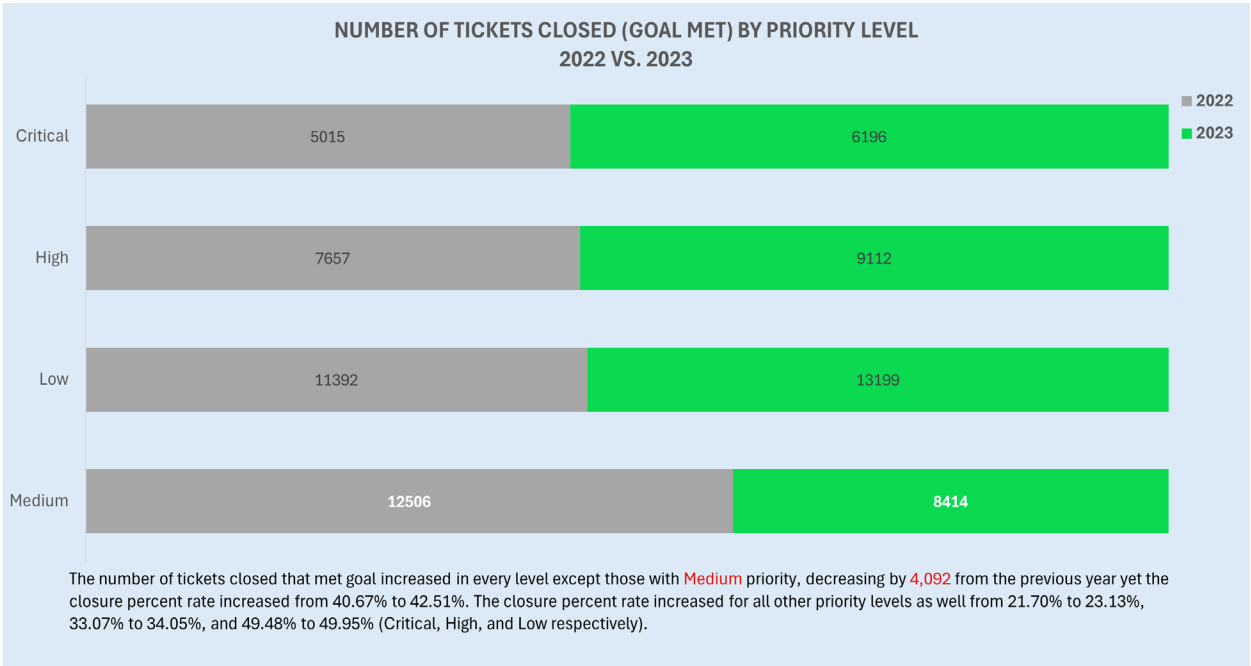
Since low priority ticket issues are more applicable to the intended ticket handling upgrade and have the highest percentage rate of closure (Goal Met) at 49.48%, it is recommended that low priority tickets are managed through the self-service application moving forward.

Results:

Preliminary analysis of the 2023 data remained the same as 2022 (only rows where goal was met were looked at and any tickets where the resolution time was less than one minute were disregarded).

The percentage rate of ticket closure increased across all priority levels (Critical – 21.70% to 23.13%, High – 33.07% to 34.05%, Low – 49.48% to 49.95%, and Medium – 40.67% to 42.51%). Although the percentage rate for medium priority tickets increased, the number of tickets closed (goal met) declined by 4,092 from the previous year.

Low priority level tickets closure overall (goal met) increased from 11,392 to 13,199 and the total number of tickets closed within Origin Window (for all priority levels) improved by 46.01% (increasing from 18,519 in 2022 to 27,039 in 2023).

NUMBER OF TICKETS CLOSED (GOAL MET) BY PRIORITY LEVEL
2022 VS. 2023

Priority	2022	2023
Critical	5015	6196
High	7657	9112
Low	11392	13199
Medium	12506	8414

The number of tickets closed that met goal increased in every level except those with Medium priority, decreasing by 4,092 from the previous year yet the closure percent rate increased from 40.67% to 42.51%. The closure percent rate increased for all other priority levels as well from 21.70% to 23.13%, 33.07% to 34.05%, and 49.48% to 49.95% (Critical, High, and Low respectively).

Tickets Closed w/in Origin Window (Goal Met) - 2023	0:00:00:59				
Team	Critical	High	Low	Medium	Total
1	878	1105	0	820	2803
2	1799	2220	0	1689	5708
3	1943	1932	0	1454	5329
4	0	0	13199	0	13199
Total	4620	5257	13199	3963	27039

Ticket Totals by Priority Level - 2023		No	Yes	Total	% (Goal Met)
Excludes tickets where Resolution Time is less than one minute.					
Critical	Q1	5214	1561	6775	23.04%
Critical	Q2	5048	1537	6585	23.34%
Critical	Q3	5046	1516	6562	23.10%
Critical	Q4	5280	1582	6862	23.05%
Critical		20588	6196	26784	23.13%
High	Q1	4429	2227	6656	33.46%
High	Q2	4362	2334	6696	34.86%
High	Q3	4353	2327	6680	34.84%
High	Q4	4505	2224	6729	33.05%
High		17649	9112	26761	34.05%
Low	Q1	3348	3271	6619	49.42%
Low	Q2	3246	3241	6487	49.96%
Low	Q3	3342	3302	6644	49.70%
Low	Q4	3288	3385	6673	50.73%
Low		13224	13199	26423	49.95%
Medium	Q1	2903	2095	4998	41.92%
Medium	Q2	2920	2139	5059	42.28%
Medium	Q3	2880	2197	5077	43.27%
Medium	Q4	2810	2083	4893	42.57%
Medium		11513	8514	20027	42.51%
Grand Total		62974	37021	99995	

Conclusion:

With the inclusion of self-service application into the company's ticket handling system and its designated assignment to low priority ticket issues, the number of tickets that achieved goal increased overall, medium level tickets being the exception that declined (originally ranking the highest the prior year). Despite this, the closure percentage rate improved across the board, with closure rates within ticket Origin Window rising as well (low priority tickets showing the greatest improvement).