

Domain Based Analysis of					
Sequence No	Variable name	Renamed Variable Name	Type Of variable	Will it impact Priority?	Can the attribute be deleted?
0	ID	c_ID	ID	No	Yes
1	CI_Name	c_CI_Name	Categorical	May-Not	No
2	CI_Cat	c_CI_Cat	Categorical	May-Not	No
3	CI_Subcat	c_CI_Subcat	Categorical	May-Not	No
4	WBS	c_WBS	Categorical	No	No
5	Incident_ID	c_Incident_ID	ID	No	Yes
6	Status	c_Status	Categorical	No	Yes
7	Impact	c_Impact	Categorical	No	Yes
8	Urgency	c_Urgency	Categorical	No	Yes
9	Priority	y_Priority	Categorical	Outcome	Outcome
10	number_cnt	q_number_cnt	Numeric - Float	TBD	TBD
11	Category	c_Category	Categorical	No	Yes

Data provided for ITSM Project

Description	
Row ID, IDs don't impact Priority	
Name of CI. CI is basically a service being used by the organizational user, it could be an application, infrastructure service etc. It may not impact the priority. But it can be used to generate Qualitative insight. Deletion can be looked at after EDA.	
Name of Category of CI. Again Names don't impact CI category. But it can be used to generate Qualitative insight. Since CI_Cat, CI_Subcat and CI_Name are hierarchical attributes of a CI Item i.e. Service or Asset, we may not need all of them, could be just CI_name. Deletion can be looked at after EDA.	
Sub Category of CI. A category can have multiple sub categories. Its is a name, and this too will not impact the priority, but can provide qualitative insights. Since CI_Cat, CI_Subcat and CI_Name are hierarchical attributes of a CI Item i.e. Service or Asset, we may not need all of them, could be just CI_name. Deletion can be looked at after EDA.	
WBSE Could be the dept or equivalently a charge code for using the CI service.. Needs Investigation, But Will not impact the Priority	
It's a unique ID give to a ticket. An ID column. A ticket could be an 1. Event (releases, outages, maintenance activities and planned changes), 2. Incident Describes a broken service(CI), and the user is having challenge in performing day to day activity using the service Incident is disruptions of a service 3. Service requests are routine activities such as requesting access, resetting passwords, updating data or provisioning services that your IT support team performs on your operational systems and services. They don't indicate that something is broken, only that something needs to be done. Contractually the pricing is fixed for each service and they can definitely not be a p1 or p2 4. Alert (usually system generated from Automated system alerts.	
Whether is ticket is open or closed. All tickets are closed, so this attribute in inconsequential	
Rating of degree of business impact the issue (1- Highest Impact, 5- Least impact). From a Data stand the affect of Impact is already captured in Priority. We really don't need this element in out Data for predicting priority.	
Rating of time sensitivity, degree of urgency with which issue needs to be resolved (1- Highest Urgency, 5 - least urgent).From a Data stand the affect of Impact is already captured in Priority. We really don't need this element in out Data for predicting priority.	
Priority is a single rating (1-Hight priority, 5- least priority) based on the Impact-Urgency matrix by the entity creating the ticket. Every organization can decide the outcome of Priority number based on this matrix. It should be understood that Price of resolving the tickets increase as the priority is higher. This will be the Outcome variable	
What is this Attribute? In all possibility may be inconsequential.	
Type Of Incident (Complaint, Incident,Request for information and Request for Change). For this project to predict priority or volumes only incidents will be considered. All other rows related to Complaint, RFC and RFI can be deleted. Post deletion of other records only Incident type will exist, the present of this attribute will become in-consequential, hence can be deleted.	

12	KB_number	c_KB_number	ID	No	Yes
13	Alert_Status	c_Alert_Status	Categorical	No	Yes
14	No_of_Reassign	q_No_of_Reassign	Numeric-Int	yes	No
15	Open_Time	t_Open_Time	Time Stamp	yes	No
16	Reopen_Time	t_Reopen_Time	Time Stamp	yes	No
17	Resolved_Time	t_Resolved_Time	Time Stamp	yes	No
18	Close_Time	t_Close_Time	Time Stamp	yes	Yes
19	Handle_Time_h	q_Handle_Time_h	Numeric -List	TBD	TBD
20	Closure_Code	c_Closure_Code	Categorical	yes	No
21	No_of_Related	q_No_of_Related	Numeric-Int	yes	No
22	Related_Interaction	c_Related_Interaction	ID	No	Yes
23	No_of_Related	q_No_of_Related	Numeric-Int	yes	No

Service users can access knowledge base (KB) articles to quickly resolve issues on their own. After a user enters keywords associated with a knowledge base, the ITSM product prompts the user to enter a search phrase. A contextual search runs and relevant knowledge base articles appear as choices to select. Users can select a new search or cancel the search. If the returned articles do not provide the required information, users can create an incident. This attribute shows the existence of KB article which could have been used by user to resolve the issue on his own, the very fact that ticket was created means, either the document was inadequate or the user never bothered to see it. All records have KB number and its data is of ID type. It will not help predicting priority, but can provide qualitative insights

Whether the ticket is open or closed. All tickets are closed, so this attribute is inconsequential

It's the no. of Hand-offs between Resolution Agents before the issue gets resolved. It could be an indicator for Priority. Generally High priority tickets should have less hand-offs to other agent. Re-assignments happen in following scenarios:

- 1) When the Agent at the time of creation assigns to wrong resolution team
- 2) When the issue requires resolutions from multiple teams (like software, infra teams) and there is no one single owner that could be established.
- 3) Some times issue is reassigned due to cursory or inadequate investigation.

Time stamp when the ticket was created. It may help in calculating time taken by the ticket to close and also in forecasting volumes as index column.

Time Stamp when the ticket was reopened. Typically if the resolution agent closes/resolves the tickets without satisfaction of the user or the issue resurfaces, then the user re-opens the ticket and this time may be by increasing the priority, (ITIL doesn't recommend such behaviors). Reopen Time period may not help but can be converted into binary yes/no to have the impact of Reopening on Priority

Time stamp when the ticket was resolved by the resolution agent. It may help in calculating time taken by the ticket to close. But will not help in forecasting the volumes

Time stamp when the ticket was closed. Post resolution of the ticket, the user who was instrumental in creating the ticket. In cases where the user fails to close the ticket, the ticket gets automatically closed based on SLA and the intimation of closure goes to all the stakeholders. Cursory look at the resolved and Closed time stamps show they are almost same. Will be used for ticket WIP duration. Can be deleted post EDA.

The data Shows a list of CSVs

It could be a code to capture the cause of incident. This information is updated by the ticket resolution agent. Since at the time of capture the ticket creation agent will not know about the information, it cannot be a predictor. However if we assume that the Ticket Creation agent can see the list of related incidents at the time of creating a new ticket, the closure code can be of some value to assess the priority.

Count of number of interactions with customer before the ticket was resolved. In general sense, if the priority of the tickets is higher, the SLA will be stringent and the Resolution agent may try to have many calls to get as much information required for reproduction of issue etc. to resolve it. Hence this could predict the priority

It seems for every interaction with the client on the incident a unique ID is generated. Since the count of interactions is already captured, we can delete the column.

Count of same or similar incidents raised in past (closed or WIP). Now many service management products have a feature to prompt this count at the time of capture of a new ticket. If the count is higher the agent interprets it as a repeat ticket or a ticket which was not resolved properly and raises the priority of the incident. This also means that Resolution team has just been doing workarounds and no serious effort to completely resolve that ticket or have failed to raise RFC (if the scope for resolution was coming under RFC). There is a good chance that it might impact the priority.

24	No_of_Related	q_No_of_Related	Numeric-Int	No	Yes
25	Related Change	c_Related Change	ID	yes	yes

This attribute indicated number of related RFC triggered by the incident . Typically if the incident is not a disruption of service, and it indicates a requiring of new service feature(s) by the user, an RFC(s) is created and incident is closed. When the supervisor looks at his incident queue for assignment to his team, he should triage it and if he discovers that it is RFC he would almost immediately close the ticket. hence these type of tickets are characterised by a very low duration of time between incident open and closure time stamps. Not relevant to predict priority.

RFC (request for change number). Many times a P1 or a p2 ticket will result in a RFC post work around is delivered, so this could be an indicator for priority. However since at the time of logging Incident ticket this information will dentally not be available, this information is useless. Also RFC tickets are not available in this data and is out of scope of this project. so this column can be deleted.

[illegible]

A	B	c	D
1	CI_Name	c_ID	'c_ID',
16	Reopen_Time	c_Incident	'c_Incident',
17	Resolved_Time	c_Status	'c_Status',
20	Closure_Code	c_Impact	'c_Impact',
21	No_of_Related_Interactions	c_Urgency	'c_Urgency',
9	Priority	c_Category	'c_Category',
10	number_cnt	c_KB_number	'c_KB_number',
19	Handle_Time_hrs	c_Alert_Status	'c_Alert_Status',
7	Impact	t_Close_Time	't_Close_Time',
13	Alert_Status	c_Related_Changes	'c_Related_Changes',
24	No_of_Related_Changes	q_No_of_Changes	'q_No_of_Changes',
25	Related_Change	c_Related_Changes	'c_Related_Changes',
2	CI_Cat	c_CI_Name	'c_CI_Name',
3	CI_Subcat	c_CI_Cat	'c_CI_Cat',
14	No_of_Reassignments	c_CI_Subcat	'c_CI_Subcat',
15	Open_Time	c_WBS	'c_WBS',
23	No_of_Related_Incidents	y_Priority	'y_Priority',
4	WBS	q_number	'q_number',
18	Close_Time	q_No_of_Changes	'q_No_of_Changes',
0	ID	t_Open_Time	't_Open_Time',
5	Incident_ID	t_Reopen_Time	't_Reopen_Time',
6	Status	t_Resolve_Time	't_Resolve_Time',
8	Urgency	q_Handle_Time	'q_Handle_Time',
11	Category	c_Closure_Code	'c_Closure_Code',
12	KB_number	q_No_of_Changes	'q_No_of_Changes',
22	Related_Interaction	q_No_of_Changes	'q_No_of_Changes',