

May 25, 2020

Certificate of Internship

This is to certify that **Ms Riya Bajaj** has done her internship in **Information Technology Function** at Indus Towers Ltd. in Corporate, under the guidance of Mr. Gaurav Kushwaha.

✚ Internship period: **February 25, 2020 to May 25, 2020**
✚ Project Name: **Power BI**

During her Internship we have found her to be a self-starter, who is motivated, duty bound and Hard-working. She worked sincerely on her assignments and her performance was good.

We wish her All the Best in her future endeavors.

For Indus Towers Limited.

Vishal Manchanda

National Head – Learning & Development

***This is system generated letter and no signatures are required.**



INTERNSHIP REPORT

INDUS TOWERS LTD.

Riya Bajaj

ACKNOWLEDGEMENT

I would like to express my gratitude and thanks to

Mr. Gaurav Kushwaha

(General Manager, IT Indus Towers) for giving me such a wonderful opportunity to widen the horizon of my knowledge.

I would also like to extend my sincere thanks to all those who gave me constructive suggestions for the improvement of this project. In particular, I would like to thank

Mr. Mahir Mahajan

(Indus Towers) for his valuable suggestion and guidance.

I also owe a deep sense of gratitude to Bharati Vidyapeeth College of Engineering for the great learning opportunity supported by equally great content and learning material. Despite all efforts, I have no doubt that error and obscurities that usually afflict all research project may exist for which I am culpable.

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PROJECT

I was working on Power BI during my internship project from 25th February 2020 – 25th May 2020.

Power BI is a collection of software services, apps, and connectors that work together to turn your unrelated sources of data into coherent, visually immersive, and interactive insights. Your data may be an Excel spreadsheet, or a collection of cloud-based and on-premises hybrid data warehouses.

The parts of Power BI

Power BI consists of:

- A Windows desktop application called **Power BI Desktop**.
- An online SaaS (*Software as a Service*) service called the **Power BI service**.
- Power BI **mobile apps** for Windows, iOS, and Android devices.

These three elements—Power BI Desktop, the service, and the mobile apps—are designed to let you create, share, and consume business insights in the way that serves you and your role most effectively. A fourth element, **Power BI Report Server**, allows you to publish Power BI reports to an on-premises report server, after creating them in Power BI Desktop.

DAX in Power BI

DAX stands for **Data Analysis Expressions** i.e. such expressions or formulas that are used for data analysis and calculations. These expressions are a collection and combination of *functions, operators, and constants* that are evaluated as one formula to yield results (value or values). DAX formulas are very useful in BI tools like *Power BI* as they help data analysts to use the data sets they have to the fullest potential.

With the help of the DAX language, analysts can discover new ways to calculate data values they have and come up with fresh insights.

Types of DAX functions

1. Date and Time Functions

The date time functions carry out calculations on the date and time values. The data type of these values is always datetime data type.

- CALENDAR
- CALENDARAUTO
- DATE
- DATEDIFF
- DATEVALUE
- DAY
- EOMONTH
- HOUR
- MINUTE
- MONTH
- NOW
- SECOND
- TIME
- TIMEVALUE
- TODAY
- WEEKDAY

- WEEKNUM
- YEAR
- YEARFRAC

2. Time Intelligence Functions

The time-intelligence functions are used to evaluate values over a fixed period such as *days, weeks, months, quarter, years*, etc. You can specify a time period using these functions and compare two scenarios in your report.

- CLOSINGBALANCEMONTH
- CLOSINGBALANCEQUARTER
- CLOSINGBALANCEYEAR
- DATEADD
- DATESBETWEEN
- DATESINPERIOD
- DATESMTD
- DATESQTD
- DATESYTD
- ENDOFMONTH
- ENDOFQUARTER
- ENDOFYEAR
- FIRSTDATE
- FIRSTNONBLANK
- LASTDATE
- NEXTQUARTER
- LASTNONBLANK
- NEXTDAY
- NEXTMONTH

3. Information Functions

The information functions are used to provide certain information on the data values contained in rows and columns. It evaluates the given condition in a function for the value given and return TRUE or FALSE. For instance, the function ISERROR will return TRUE if the value evaluated contains an error.

- CONTAINS
- CUSTOMDATA
- IN Operator / CONTAINSROW function
- ISBLANK
- ISERROR
- ISEVEN
- ISINSCOPE
- ISLOGICAL
- ISNONTEXT
- ISNUMBER
- ISODD
- ISONORAFTER
- ISTEXT
- LOOKUPVALUE
- USERNAME

4. Logical Functions

The logical functions are used to evaluate an expression or argument logically and return TRUE or FALSE if the condition is met or not.

- AND
- FALSE
- IF
- IFERROR
- IN
- NOT
- OR
- SWITCH
- TRUE

5. Mathematical and Trigonometric Functions

The mathematical and trig functions are used to perform all sorts of mathematical functions on the referred values. Given below, is a list of all the available math and trig DAX functions in Power BI.

- ABS
- ACOS
- ACOSH
- ASIN
- ASINH
- ATAN
- ATANH
- CEILING
- COMBIN
- COMBINA
- COS
- COSH
- CURRENCY
- DEGREES
- DIVIDE
- EVEN
- EXP
- FACT
- FLOOR

6. Statistical Functions

These functions carry out statistical and aggregation functions on data values in a DAX expression in Power BI. The list of available statistical functions is given below.

- ADDCOLUMNS
- APPROXIMATEDISTINCTCOUNT
- AVERAGE
- AVERAGEA
- AVERAGEX

- BETA.DIST
- BETA.INV
- CHISQ.INV
- CHISQ.INV.RT
- CONFIDENCE.NORM
- CONFIDENCE.T
- COUNT
- COUNTA
- COUNTAX
- COUNTBLANK
- COUNTROWS
- COUNTX
- CROSSJOIN
- DISTINCTCOUNT
- EXPON.DIST
- GENERATE
- GENERATEALL
- GEOMEAN
- GEOMEANX
- MAX
- MAXA
- MAXX
- MEDIAN
- MEDIANX
- MIN
- MINA
- MINX

7. Text Functions

The text functions in Power BI are very similar to the string functions of Excel. These functions evaluate string values.

- BLANK
- CODE
- COMBINEVALUES

- CONCATENATE
- CONCATENATEX
- EXACT
- FIND
- FIXED
- FORMAT
- LEFT
- LEN
- LOWER
- MID
- REPLACE
- REPT
- RIGHT
- SEARCH
- SUBSTITUTE
- TRIM
- UNICHAR
- UPPER
- VALUE

8. Parent-Child functions

The parent and child functions are used for data values that are a part of a parent-child hierarchy.

- PATH
- PATHCONTAINS
- PATHITEM
- PATHITEMREVERSE
- PATHLENGTH

9. Other functions

There a bunch of functions that do not fit in any particular category. These are also very useful functions.

- DATATABLE
- ERROR
- EXCEPT
- GENERATESERIES
- GROUPBY
- INTERSECT
- ISEMPTY
- ISSELECTEDMEASURE
- NATURALINNERJOIN
- NATURALLEFTOUTERJOIN
- SELECTEDSMEASURE
- SELECTEDMEASUREFORMATSTRING
- SELECTEDSMEASURENAME
- SUMMARIZECOLUMNS
- Table Constructor
- TREATAS
- UNION
- VAR

10. Table functions

The table functions in DAX formulas for Power BI are used to apply operations and conditions on entire tables. The output of table functions is used as inputs in other expressions or arguments in a DAX formula. The results of these functions retain the relationships between columns of that table.

- FILTER
- ALL
- VALUES
- DISTINCT
- RELATEDTABLE



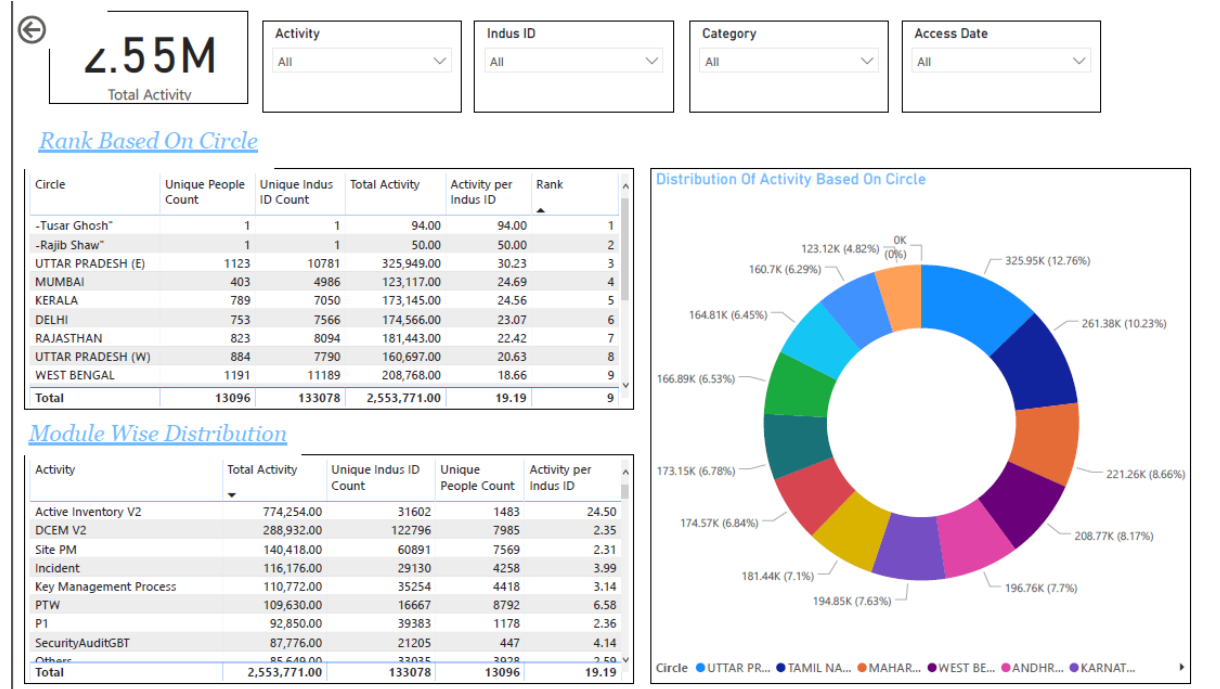
During my internship, I worked upon 2 projects-

- 1) Imapp
- 2) ITIL

Imapp- In this report, I had to calculate and visualise the ranks of the circles based on the activities performed per Indus ID using DAX.

ITIL- In this report, I referred to a pre-made ITIL report and created a similar report applying and enhancing my POWER BI and DAX skills.

1-Imapp

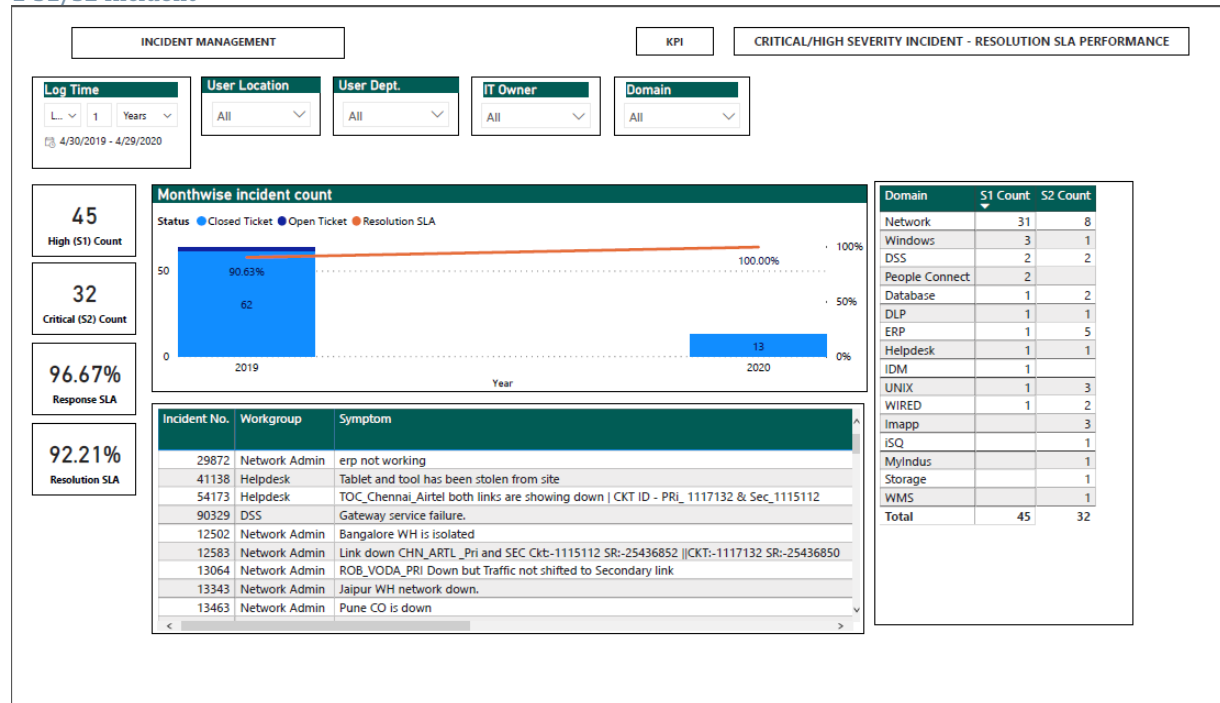


2-Details

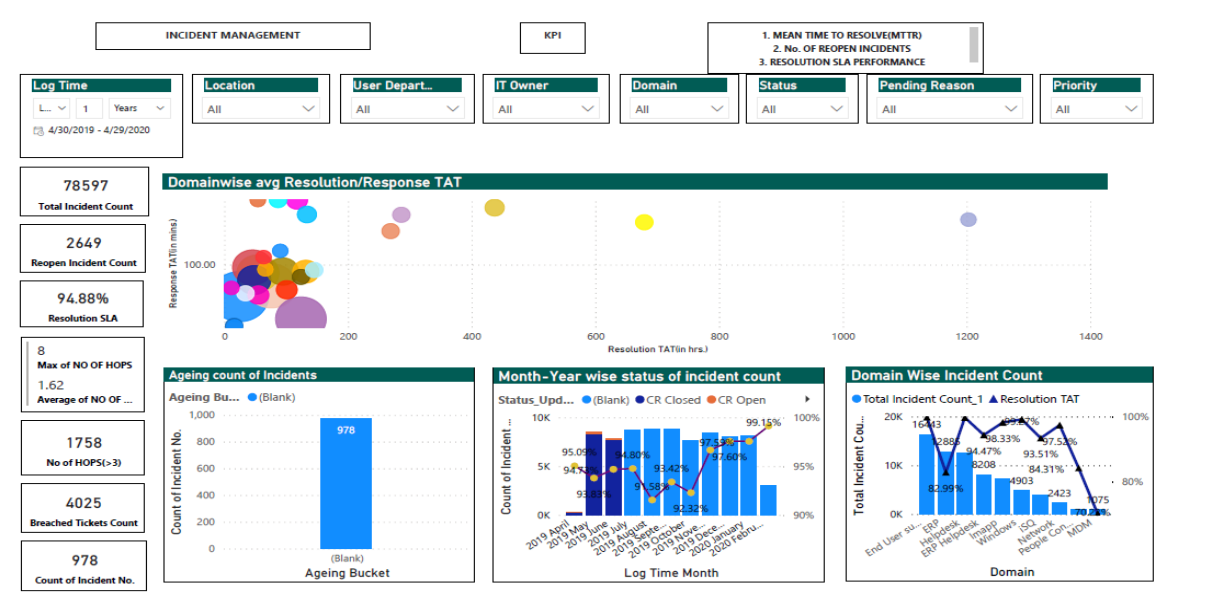
Circle	Activity	Indus ID	Category	Requested By
ANDHRA PRADESH	Key Management Process	IN-1004187	Technician	YETUKURI CHANDRA SEKHAR
ANDHRA PRADESH	Key Management Process	IN-1004212	Technician	PAKALA PRAVEEN
ANDHRA PRADESH	Key Management Process	IN-1004227	Technician	RIYAZODDIN
ANDHRA PRADESH	Key Management Process	IN-1004230	Technician	SK. Khazameera
ANDHRA PRADESH	Key Management Process	IN-1004232	Technician	CHITTURI CHIRANJEEVI
ANDHRA PRADESH	Key Management Process	IN-1004235	Technician	KUMMETHA SUDHAKAR REDDY
ANDHRA PRADESH	Key Management Process	IN-1004237	Technician	KATTA DHARMA RAJU
ANDHRA PRADESH	Key Management Process	IN-1004252	Technician	Amidala Satyanarayana
ANDHRA PRADESH	Key Management Process	IN-1004264	Technician	KRISHNIAIAH SATHISH
ANDHRA PRADESH	Key Management Process	IN-1004265	Technician	KRISHNIAIAH SATHISH
ANDHRA PRADESH	Key Management Process	IN-1004268	Technician	LANKIPALLI JANARDHAN
ANDHRA PRADESH	Key Management Process	IN-1004275	Technician	MARAMPAALLY SUBHASH
ANDHRA PRADESH	Key Management Process	IN-1004292	Technician	PULA GANGADHAR
ANDHRA PRADESH	Key Management Process	IN-1004309	Technician	KAKARA ESWAR RAO

Imapp Report

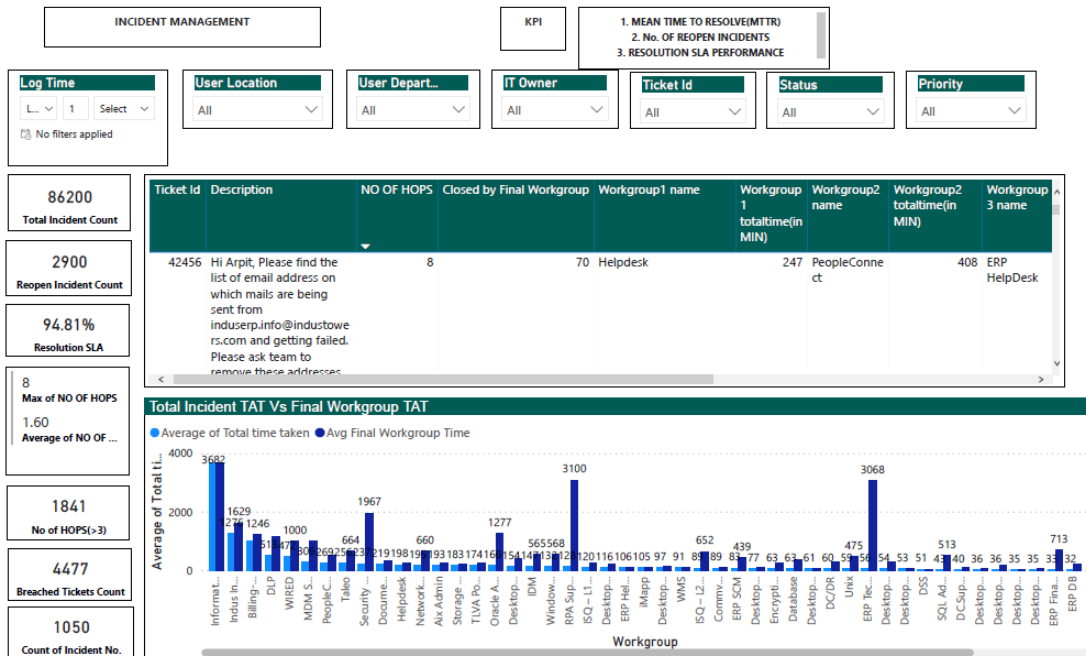
1-S1/S2 Incident



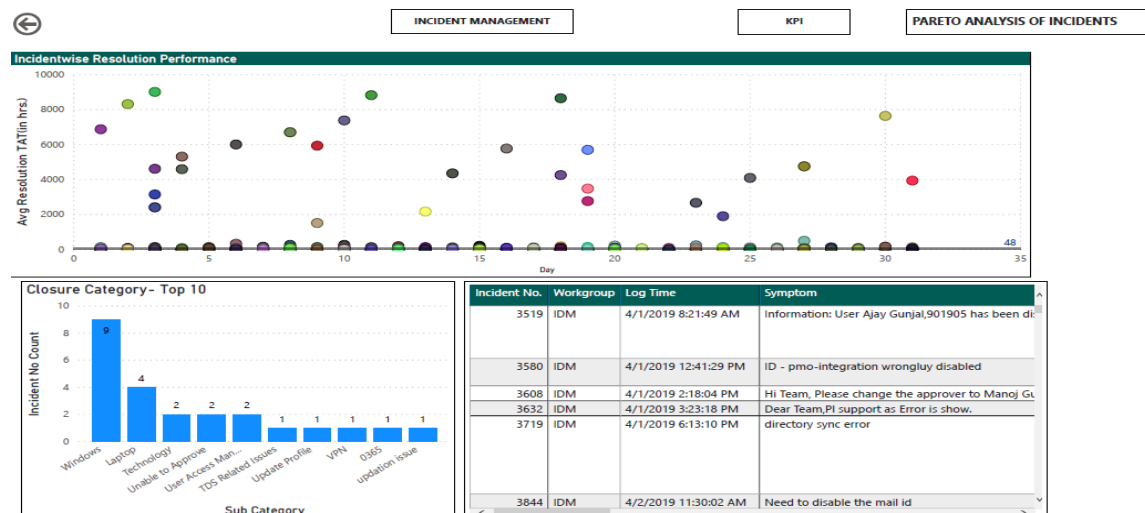
2-Incident-User View



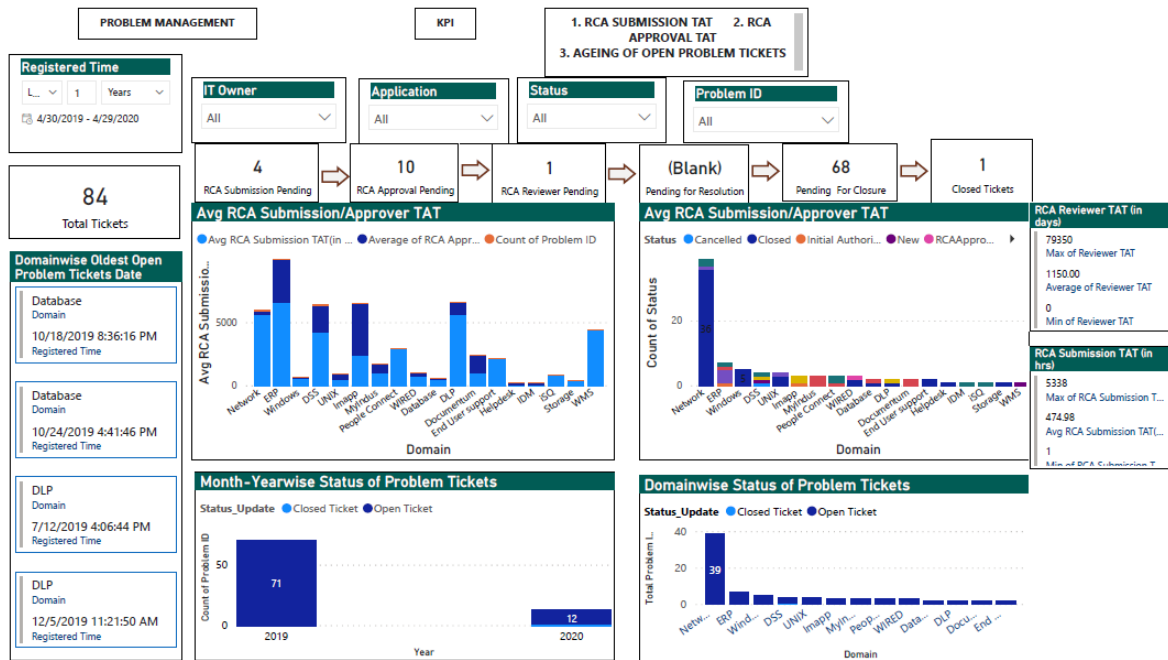
3-Incident-IT View



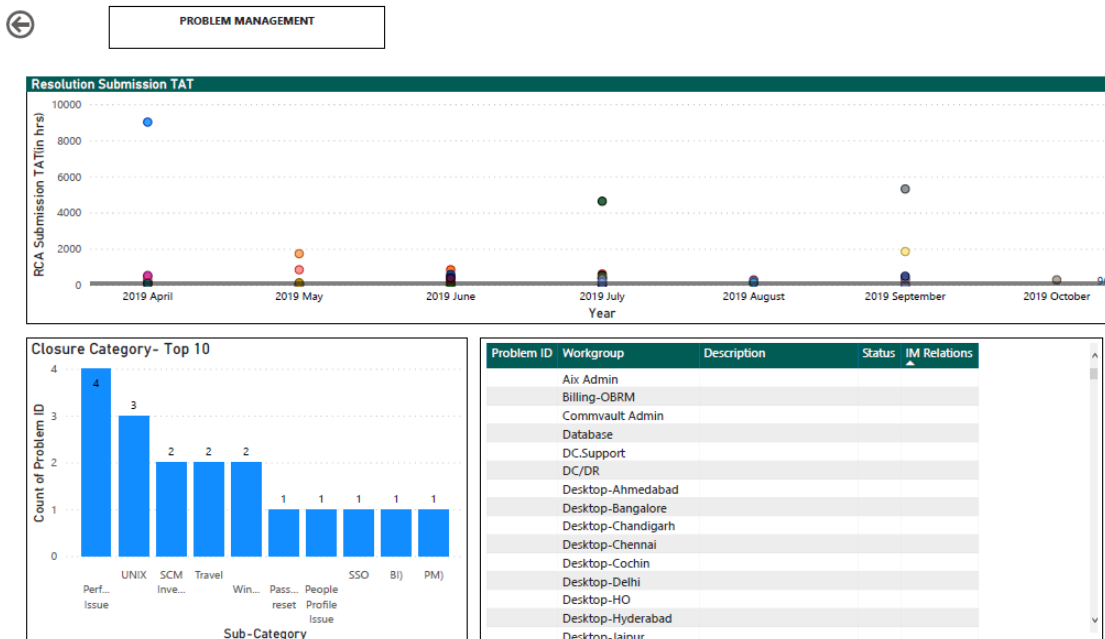
4-Incident Details



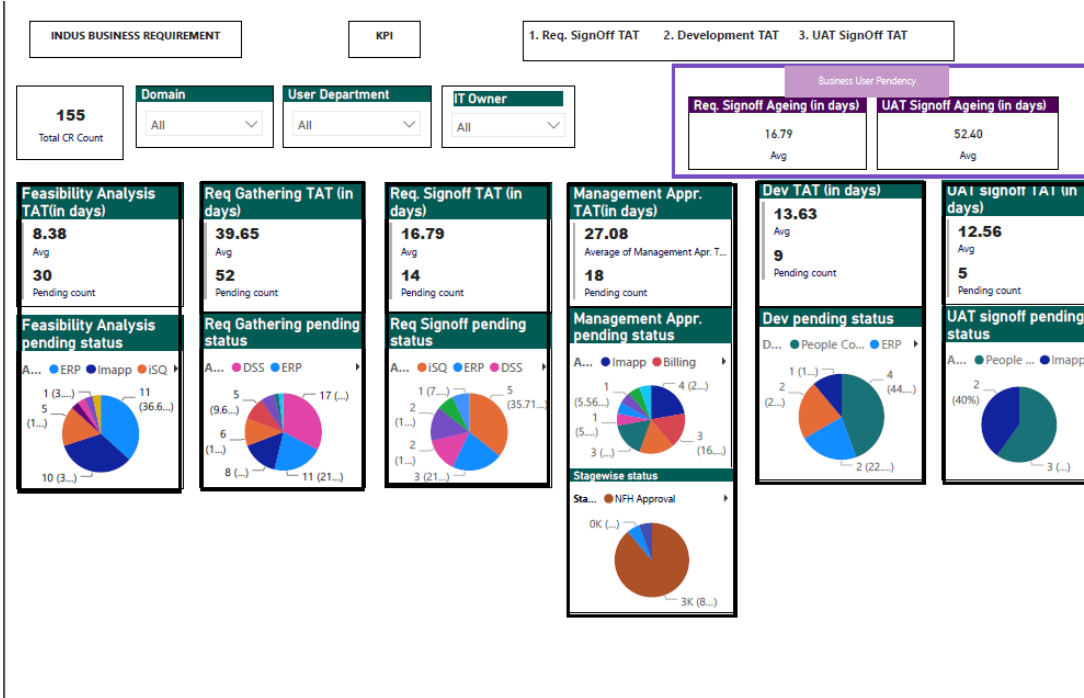
5-Problem



6-Problem Details



7-Business Requirement CR-lifecycle view



8-Business Requirement CR-Dept/App View

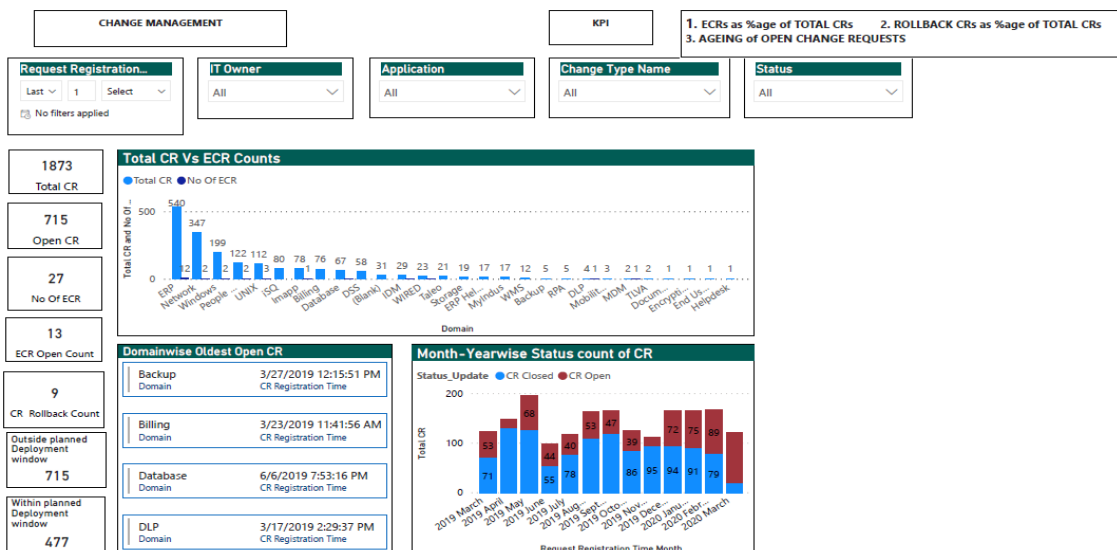


9- Business Requirement CR Details



Change Request Id	Owner Work Group Name	Request Registration Time	Description	Final Effort in Days	Change Current Status
1647	ERP SCM	1/21/2020 12:01:43 PM	Controlling - In rental schedule approved cases, System allowed termination of approved rental schedule from back date (negative schedule generate). Required control on approval of schedule system will not allow to terminate the approved schedule from back date i.e system can allow termination of schedule only from next day of approved schedule. This is financial impacted process and chances to forget adjustment of negative schedule with future positive schedule and also impact recovery from LLs	3.00	Development Initiated
1637	RPA Support	1/20/2020 1:32:30 PM	a BOTS system is required where common agreed format to be there and on filling the template no. and Site ID/ Ref Id, BOTS must pick and create PR in ERP.	15.00	Pending for CEO Approval
1396	PeopleConnect	12/3/2019 4:27:52 PM	ADDITION OF 'DATE OF COMPLETION' COLUMN IN POLICY DEPLOYMENT STATUS REPORTS.	0.50	Implemented
1618	Taleo	1/15/2020 9:29:12 PM	Additional Requirement for Taleo & automation of Reports	1.00	Implemented
1479	PeopleConnect	12/16/2019 7:10:26 PM	Additional Requirements for PIP Review 3 on People Connect	3.00	Implemented
1397	PeopleConnect	12/3/2019 5:28:44 PM	Any employee got transfer from one circle/cluster to another circle/Cluster or left the organization, their team members should be tag automatically to new reporting manager and Function Head instead of doing manually update in people connect	0.50	Implemented
1597	PeopleConnect	1/10/2020 4:28:00 PM	Appraisal letters to be automated	2.00	Development Initiated
1496	ISQ - L2 Team	12/18/2019 4:33:48 PM	Automation of Billing Trigger Date for Rental Billing	30.00	Pending for NFH Approval
1853	Indus Intranet	2/20/2020 11:14:55 AM	Below 2 changes required in Dispute Automtion: 1.Please move the UAT data of DL circle into production server. Attachment will be done by us again in production server. 2.Please bifurcate the Circle code of P&H into PUN and HAR as there are separate customer team.	20.00	Pending for NFH Approval
1481	PeopleConnect	12/16/2019 7:30:25 PM	CALCULATED RATINGS BASED ON TARGET AND ACHIEVEMENTS to be incorporated in next Annual Appraisal cycle	12.00	Pending for CIO Approval
1686	PeopleConnect	1/24/2020 7:47:37 PM	Capturing 3 additional fields in Core HR - matrix manager ID, Name and Area in Core HR	2.00	Implemented

10-Change



11-Change Details



Change Request Id	Year	Month	Day	Workgroup	IT Owner	Description	Change Type Name	Status
109	2019	March	23	Billing-OBRM	Gaurav A	Billing Production DB Migration to Exadata	Normal	Draft
163	2019	April	3	Billing-OBRM	Gaurav A	CR for VIL Arrear Billing - RLM000000005673	Business Requirement	Canceled
164	2019	April	3	Billing-OBRM	Gaurav A	RLM000000005673 - CR for VIL Arrear Billing	Business Requirement	Closed
165	2019	April	3	Billing-OBRM	Gaurav A	RLM000000005647 - CR for Retro Billing Cut off	Business Requirement	Closed
166	2019	April	3	Billing-OBRM	Gaurav A	RLM000000005656 - CR for RJIO de-loading billing	Business Requirement	Closed
167	2019	April	3	Billing-OBRM	Gaurav A	RLM000000005646 - CR for Change in Feather Sites Std Config	Business Requirement	Closed
168	2019	April	3	Billing-OBRM	Gaurav A	RLM000000005461 - CR for Lite Plus Sites	Business Requirement	Closed
174	2019	April	4	Billing-OBRM	Gaurav A	HotSwap CR deployment to be done in production.	Business Requirement	Closed
202	2019	April	10	Billing-OBRM	Gaurav A	CR code to be deployed for Idea 2.5% Escalation Logic.		Draft
205	2019	April	10	Billing-OBRM	Gaurav A	CR code deployment for Idea 2.5% Escalation	Business Requirement	Closed
279	2019	April	25	Billing-OBRM	Gaurav A	Deployment of IBS BTD CR on PROD.	Business Requirement	Closed
341	2019	May	4	Billing-OBRM	Gaurav A	There is issue with retro billing while applying high rental. code has been fixed to address this issue.	Normal	Closed
369	2019	May	8	Billing-OBRM	Gaurav A	New Service Request raised for - Business Requirement(Billing-	Business Requirement	Draft

ITIL Report