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# Capstone Case Study Guide MAPFRE

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CHALLENGE CONVENTION. CHANGE OUR WORLD.

# School of Professional Studies

Capstone Case Study Guide

# **MAPFRE**



Apoorva Arbooj Ahamad Waqas Prabhat K C Manju Jayam Rashmi Sakleshpur Rajashekar

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## 1 Purpose of Case Study

#### 1.1 Introduction

Mapfre is a Top-Notch insurer and a competitive and fast-evolving insurance company. Clark team will help Mapfre to organize to secure systems availability and resilience to support the business process. Assist and recommend the IT team for further analysis and identify data, trends, and patterns and come up with to improve the services.

#### 1.2 Major Stakeholders

MAPFRE USA – IT team

## 2 Project Goal and Scope

#### 2.1 Project Goal

The Clark University Capstone students will be provided an overview of Site Reliability Engineering (SRE) best practices, and leverage its principles to Analyze incidents, problems, and changes. Embrace SRE principles and make suggestions to improve the way MAPFRE USA provides IT as a service to its internal and external customers (agents).

## 2.2 Project Scope

Start Date March 18th, 2021

End Date June 4th, 2021

The ServiceNow SRE Assessment is a 12-week engagement involving analysis of MAPFRE USA's ServiceNow. Abstract/Executive Summary - Measures of Success

<b>Project Outcomes</b>	Measure of Success
SFD – Solution Flow Document	A document containing details and results of the Service Now
	analysis including any recommendations for eliminating recurring
	issues (written report).
SLI specification documents	Analysis on identified critical business transactions on SLI and
and the corresponding SLO	SLO

A&R – Analytics,	and	Reports
drill down		

Presentation of analysis results, including recommendations to improve IT as a service to MAPFRE stakeholders (PowerPoint).

## **3.**Executive Summary:

Site Reliability Engineering (SRE) teams are responsible for the availability, latency, performance, efficiency, change management, monitoring, emergency response, and capacity planning of their services. Decreasing the meantime to resolution (MTTR), Time to mitigate an issue (TTM) are the KPIs SRE teams want to measure against business applications. ServiceNow platform acts as a system of record and system of engagement for the SRE teams.

The ServiceNow SRE Assessment is a 12-week engagement involving analysis of MAPFRE USA's ServiceNow. The Clark University Capstone students will be provided an overview of Site Reliability Engineering (SRE) best practices, and leverage its principles to:

Analyze incidents, problems, and change. Embrace SRE principles and make suggestions to improve the way MAPFRE USA provides IT as a service to its internal and external customers (agents).

Project Details:

- Analyze the current volume of incidents, problems, and changes recorded within the Service Now database, identify clusters of related incidents, perform root cause analysis, and recommend possible solutions to eliminate.
- Review Key Process Indicators (KPI)
- Assist with defining Service Level Objectives (SLO)
- Identify and establish baselines Service Level Indicators (SLI) for critical business transactions. (LIVO and Tronweb)
- Create a standard template for defining SLI and SLO specifications.
- Assist in negotiating SLO targets and documenting the outcome.
- Explore ways in which to technically implement Error Budgets. How does a rolling window work? Is that better than a fixed time box? How do you measure and update the remaining budget as time moves through either the rolling window or the fixed time box?
- Analyze MTTR and TTM; make suggestions leveraging SRE best practices to improve response times.
- Expose areas that contain toil which can be eliminated through automation.

- Provide recommendations for applying SRE best practices to improve MAPFRE USA's IT service delivery
- Deliverables
- The document containing details and results of the Service Now analysis including any recommendations for eliminating recurring issues (written report).
- SLI specification documents and the corresponding SLO documents for the identified critical business transactions.
- Presentation of analysis results, including recommendations to improve IT as a service to MAPFRE stakeholders (PowerPoint).

#### 4.The Challenge

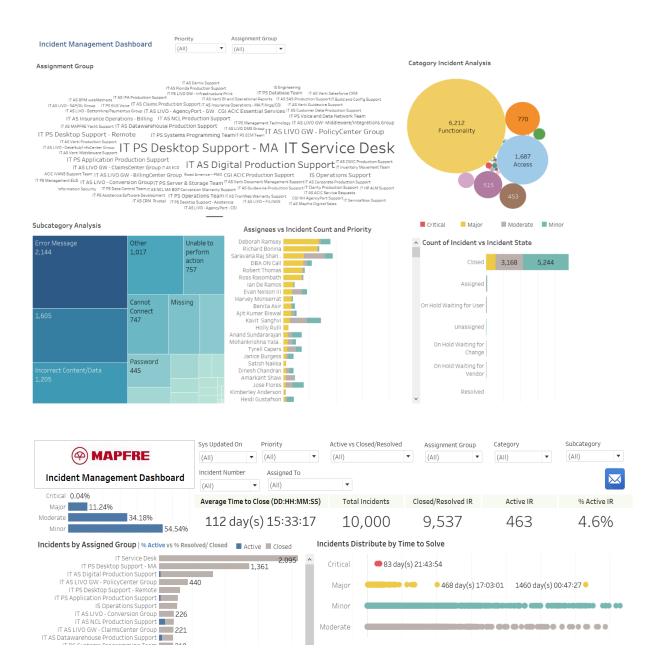
- The first problem is data; the Mapfre data only included a few data points from 2015 to 2019, but the dataset mostly contains data from 2020 and 2021 (till now). This reduces the capacity to spot any trends or aberrant behavior in the data.
- A large number of fields in the dataset were redundant and included null values.
   We discovered the reason after receiving client input.
- As a result, we used Python's pandas to clean the data. The data was imported into a Jupyter notebook, and the fields with only null values were eliminated. Another data change we made was filtering and eliminating data before 2020, leaving only data from 2020 forward. After that, the cleansed data is sent to Tableau.
- Even if the data contains no null values, the majority of the fields are present since the service now system requires/generates them. However, the fields are of little use for analysis or further investigation.
- Severity is another issue with change request data; the majority of CRs are of mild severity. And most of the CR are desktop, Citrix, and monthly upgrades.

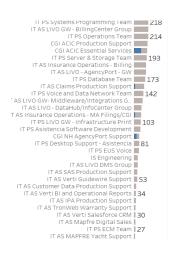
#### 5. The Solution

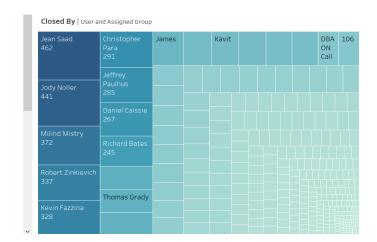
We created a python script to clean data, which entails deleting fields that aren't needed and eliminating data with null values.

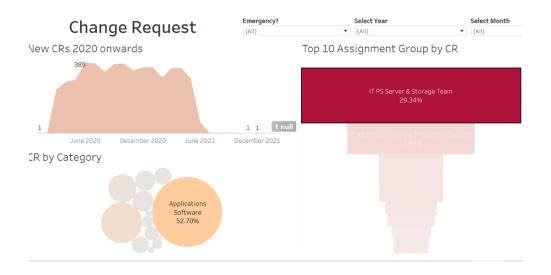
Another strategy we adopted was to concentrate on data that was not collected on a weekly or monthly basis. The reason for this is that the system is new, and there was little data before 2020.

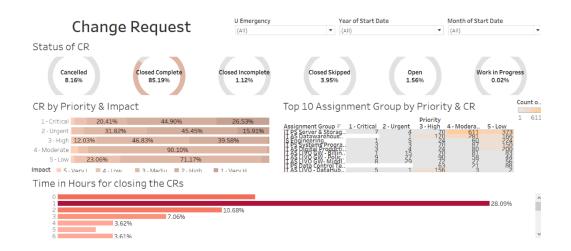
Comparing data from only the months for which we have data from both years (2020 and 2021). Instead of using data from the entire year, this method yields better results (since we are only halfway through the year 2021). Comparing the entire 2020 year with merely a few months of data from 2021 adds no value.

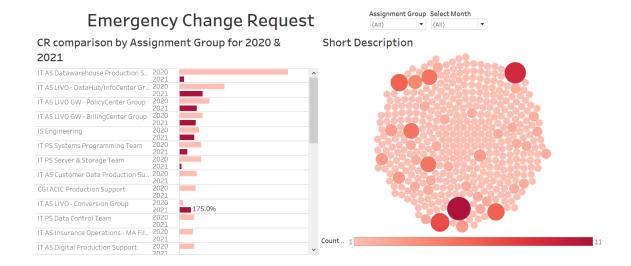


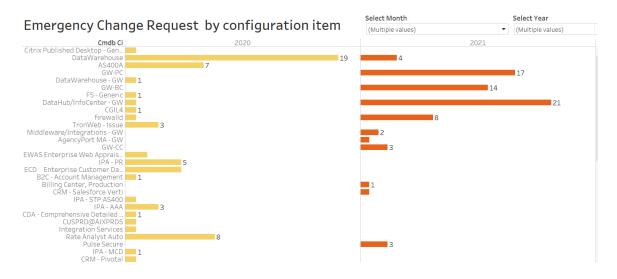




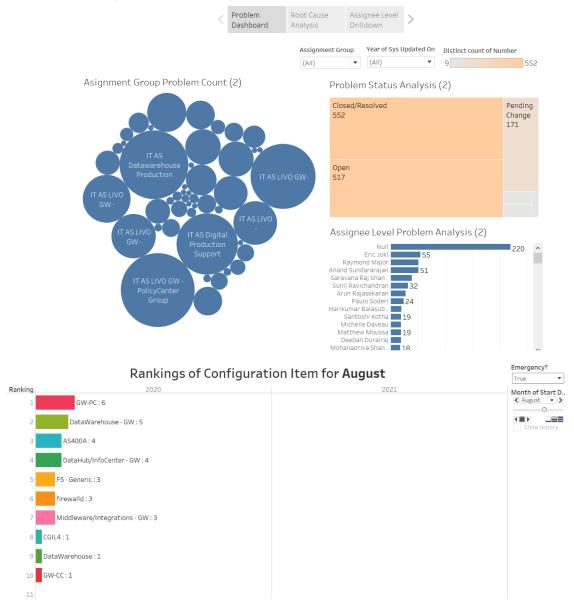




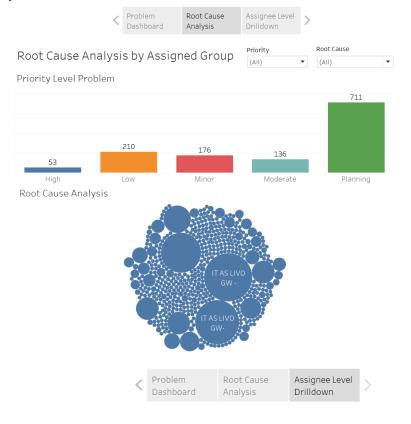




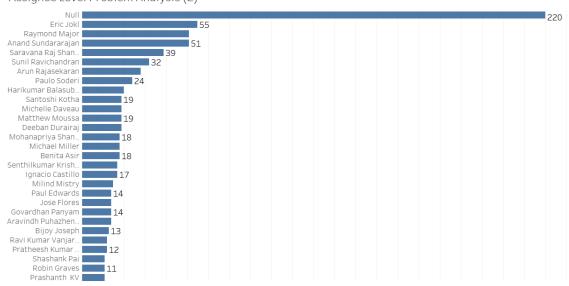
#### **Problem Analysis**



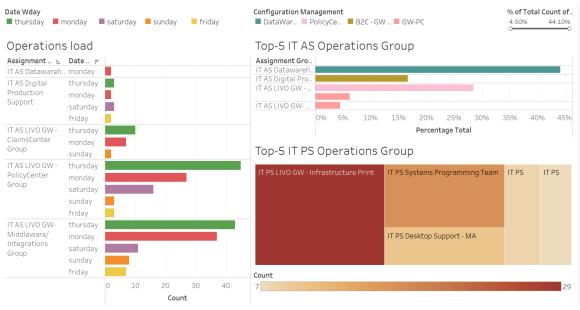
#### **Problem Analysis**

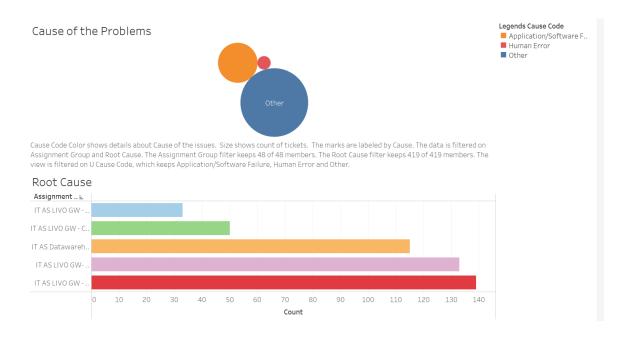


#### Assignee Level Problem Analysis (2)



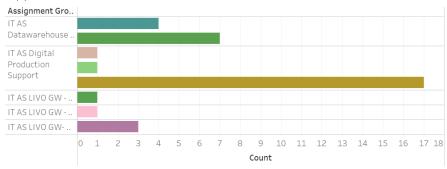






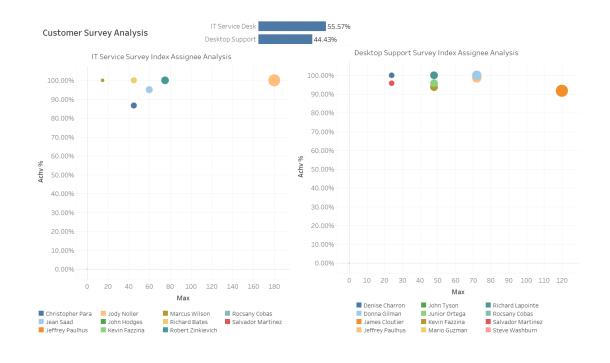


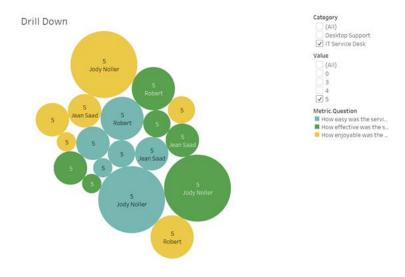
#### **Application Failure**



Instance.Task Id.Assigned To	How easy was the service desk to do bu.	effective	How enjoyable was the se	Grand Total	No Ticket Handled	Max	Achv %
Christopher Para	13	13	13	39	3	45	86.67%
Jean Saad	19	19	19	57	4	60	95.00%
Jeffrey Paulhus	0	0	0	0	0	0	0.00%
Jody Noller	60	60	60	180	12	180	100.00%
John Hodges	0	0	0	0	0	0	0.00%
Kevin Fazzina	0	0	0	0	0	0	0.00%
Marcus Wilson	5	5	5	15	1	15	100.00%
Richard Bates	15	15	15	45	3	45	100.00%
Robert Zinkievich	25	25	25	75	5	75	100.00%
Rocsany Cobas	0	0	0	0	0	0	0.00%
Salvador Martinez	0	0	0	0	0	0	0.00%
Grand Total				411	28	420	98%

Instance.Task Id.Assigned To	courteous and respectful was the desktop technician w	are you with your overall	How satisfied were you with the response time to your issue	Please rate the technical compete	Grand Total	No Ticket Handled	Max	Achv %
Denise Charron	6	6	6	6	24	1	24	100.00%
Donna Gilman	18	18	18	18	72	3	72	100.00%
James Cloutier	27	27	29	27	110	5	120	91.67%
Jeffrey Paulhus	18	18	17	18	71	3	72	98.61%
John Tyson	0	0	0	0	0	0	0	0.00%
Junior Ortega	12	12	10	12	46	2	48	95.83%
Kevin Fazzina	12	9	12	12	45	2	48	93.75%
Mario Guzman	6	6	6	6	24	1	24	100.00%
Richard Lapointe	12	12	12	12	48	2	48	100.00%
Rocsany Cobas	6	6	6	6	24	1	24	100.00%
Salvador Martinez	6	6	5	6	23	1	24	95.83%
Steve Washburn	0	0	0	0	0	0	0	0.00%
Grand Total					487	21	504	97%





## 6. Conclusion / Recommendations

Update the status of the ticket to reflect whether the status is Active or Not, to have the correct number of Active tickets

#### Active But Incident State is "Resolved"

Active	Incident State	Priority	Incident Nu	Assign	<b>Short Description</b>
<b>Active</b> Resolved		Minor	INC1607043	Erin Downes	Special Project:: NH AP 5.3/My Clients/search by property addres
			INC1738420	Louis Pineda	EDW AS400 New Business in Mnthly Sumry incorrect
		Moderate	INC1793748	Lisa Rob inson	MAPFRE NCL POLICY 8008030009175

# Unassigned and On Hold Tickets should be channeled to respective Assigned Group s and Assignees

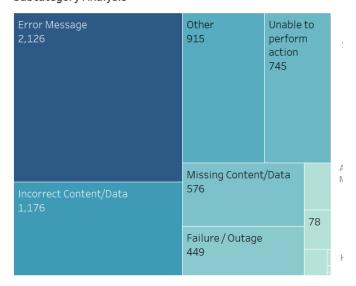
			Priority			
Incident State (g	Critical	Major	Minor	Modera	Grand	
Assigned		0.03%	0.68%	0.70%	1.41%	
Closed	0.04%	11.21%	52.44%	31.68%	95.37%	
On Hold Waiting			0.87%	1.38%	2.25%	
Resolved			0.02%	0.01%	0.03%	
Unassigned			0.53%	0.41%	0.94%	
Grand Total	0.04%	11.24%	54.54%	34.18%	100.00%	

# Some assignees have got more tickets equal distribution of tickets.

Assigned To	F	Critical	Major	Minor	Modera	Grai	nd T	
Jean Saad				395	67		462	^
Jody Noller			5	372	64		441	
Milind Mistry			4	246	122		372	
Robert Zinkiev	ich		1	284	52		337	
Kevin Fazzina				163	165		328	ı
Christopher Pa	ra		2	255	34		291	ı
Jeffrey Paulhus	5			127	158		285	ı
Daniel Caissie				200	67		267	ı
<b>Richard Bates</b>				242	3		245	ı
Saravana Raj S	han		79	29	79		187	ı
Thomas Grady			1	136	46		183	ı
Deborah Ramse	ey		134	35	9		178	ı
James Cloutier				60	102		162	ı
Richard Lapoin	te		1	58	88		147	ı
Kavit Sanghvi			25	54	64		143	ı
Denise Charron	1			98	44		142	ı
Richard Bonina	ı		129	4	4		137	ı
Rocsany Cobas				85	51		136	ı
DBA ON Call			77	18	14		109	ı
Null				59	47		106	ı
Donna Gilman				30	65		95	
Richard Kelly			8	55	32		95	
Salvador Marti	nez		1	71	21		93	
Evan Nelson III			35	19	37		91	
Junior Ortega				41	50		91	
Michael Malans	son	1	7	40	43		91	~

# Category Incident Analysis 7.70% Question / Help Functionality 16.87% Access 1.67% 4.53%

#### Subcategory Analysis



- Aging tickets should be closed with the permission of users
- Every ticket should have the Activity Due and SLA Due

#### Active IR

Incident Number	Assigned To	Incident State	Short Description	Sys Created On	Sys Updated On	Activity Due	Sla Due
INC1532833	Prathyusha Devi	Assigned	Compliance - Idaho Insurance Verification Web Service	8/14/2017 10:15:35 AM	4/27/2021 8:10:11 AM	UNKNOWN	UNKNOWN
INC1565010	Heidi Gustafson	On Hold Wait	Manual Auto - Policy QY8415: Coverage / Premium screen	1/15/2018 9:38:25 AM	2/1/2021 8:39:31 AM	UNKNOWN	UNKNOWN
INC1566856	Null	Unassigned	Maintenance: Job ENFDRECV runs in robot @ 1:00 p.m.daily not producing th.	1/23/2018 11:23:55 AM	3/23/2021 2:35:06 PM	UNKNOWN	UNKNOWN
INC1572362	Null	Unassigned	Special Project: V12 Future dated transaction being generated for policies	2/15/2018 10:23:59 AM	3/24/2021 10:30:39 AM	UNKNOWN	UNKNOWN
INC1573155	Null	Unassigned	Finance - V12 Tables - ALSTMF items that do not tie back to ALCOVR	2/20/2018 1:55:40 PM	3/22/2021 3:51:40 PM	UNKNOWN	UNKNOWN
INC1574065	Heidi Gustafson	On Hold Wait	FAC Application Out of Balances	2/23/2018 11:02:48 AM	2/1/2021 8:39:31 AM	UNKNOWN	UNKNOWN
INC1581817	Null	Unassigned	Compliance: ACPA1259814 system is capturing the written premium as the p.	3/29/2018 8:15:22 AM	3/30/2021 1:18:39 PM	UNKNOWN	UNKNOWN
INC1584252	Null	Unassigned	Finance - B05050X report does not total correctly.	4/9/2018 4:02:46 PM	4/1/2021 7:41:12 AM	UNKNOWN	UNKNOWN
INC1585883	Heidi Gustafson	On Hold Wait	MA Auto DNR issue MAIP 4th year not being cancelled	4/17/2018 2:05:38 PM	2/10/2021 10:43:00 AM	UNKNOWN	UNKNOWN
INC1589376	Prathyusha Devi	Assigned	Maintenance: Control balances two spreadsheets attached and report 3800 a.	5/3/2018 2:33:48 PM	5/5/2021 1:31:54 PM	UNKNOWN	UNKNOWN
INC1598351	Null	Unassigned	Special Project: V12 & TronWeb Defensive Driver Requirement Clarification	6/19/2018 9:26:56 AM	3/24/2021 2:23:13 PM	UNKNOWN	UNKNOWN
INC1604690	Jose Flores	On Hold Wait	AS400 eCW Reserve issue	7/20/2018 8:00:16 AM	2/1/2021 8:39:31 AM	UNKNOWN	UNKNOWN
INC1605808	Anjaneya Lakshm	On Hold Wait	COMPARE.com Issue - PLEASE ASSIGN TO JULIE SIDDLE'S TEAM - Compare is	7/25/2018 10:21:13 AM	2/1/2021 8:39:31 AM	UNKNOWN	UNKNOWN
INC1606973	Arul Neelan	Assigned	Compliance: ME/VT Home & CT (PLRT) renewals not having cov C increase wit	7/31/2018 11:03:43 AM	4/15/2021 3:16:20 PM	UNKNOWN	UNKNOWN
INC1607043	Erin Downes	Resolved	Special Project:: NH AP 5.3/My Clients/search by property address especially .	7/31/2018 2:09:41 PM	5/14/2021 11:21:04 AM	UNKNOWN	UNKNOWN
INC1615066	Heidi Gustafson	On Hold Wait	WE have an OOB for Commerce Premium for 08/2018 after running Transtoca.	9/10/2018 1:46:16 PM	2/1/2021 8:39:31 AM	UNKNOWN	UNKNOWN
INC1621196	Robert Thomas	Assigned	AI Agent Memos - Search function not working in some circumstances	10/9/2018 2:20:11 PM	2/1/2021 8:39:31 AM	UNKNOWN	UNKNOWN
INC1623481	Null	Unassigned	Special Project: V12 Extract Changes - for Current Balance calculation	10/18/2018 3:31:34 PM	3/24/2021 2:16:14 PM	UNKNOWN	UNKNOWN
INC1627313	Heidi Gustafson		Manual Auto Posting_ Umbrella Discount	11/5/2018 8:04:03 AM	2/1/2021 8:39:31 AM	UNKNOWN	UNKNOWN
INC1627314	Heidi Gustafson	On Hold Wait	Manual Auto Posting - Van Wagon Pickup Indicator	11/5/2018 8:05:05 AM	2/1/2021 8:39:31 AM	UNKNOWN	UNKNOWN
INC1628280	Heidi Gustafson	On Hold Wait	OOB on attached FAC-01 spreadsheet of (16) for October. Was out of balance.	11/7/2018 4:14:48 PM	2/1/2021 8:39:31 AM	UNKNOWN	UNKNOWN
INC1631607	Krishna Chintha	Assigned	NH AP 5.3: Excess vehicle not tiered correctly (NHPA 000053399 MICHAEL GR.	11/27/2018 8:39:36 AM	4/16/2021 10:35:31 AM	UNKNOWN	UNKNOWN
INC1632998	Krishna Chintha	Assigned	Quote 5076 Nahed Bishop hands free viogiving 1 pt not 3incorrecte tierin.	12/3/2018 1:41:48 PM	4/19/2021 2:04:31 AM	UNKNOWN	UNKNOWN
INC1635429	Heidi Gustafson	On Hold Wait	OOB of (1) in attached FAC-01 spreadsheet for November.	12/12/2018 1:51:23 PM	2/1/2021 8:39:31 AM	UNKNOWN	UNKNOWN
INC1638587	Null	Unassigned	Special Project: cipa 2212913 -need to replace car from a 2011 jeep to a 2015 .	1/2/2019 8:10:32 AM	4/15/2021 3:20:27 PM	UNKNOWN	UNKNOWN
INC1639449	Heidi Gustafson	On Hold Wait	OOB of (20) in attached FAC-01 spreadsheet for December.	1/4/2019 4:08:30 PM	5/5/2021 4:44:32 PM	UNKNOWN	UNKNOWN
INC1639750	Kevin Swanson	On Hold Wait	Access to update Mapfre wiki pages	1/7/2019 2:02:16 PM	2/1/2021 8:39:31 AM	UNKNOWN	UNKNOWN
INC1641520	Null	Unassigned	Special Project -information on how to request a column be added to two tabl.	1/15/2010 5-00-17 PM	3/24/2021 2:20:14 PM	UNKNOWN	UNKNOWN

- Auto closure with the user confirmation
- Focus on regular issues and monitor and automate the same
- Regulate the Incident Tickets by Timely Follow up and Next Action Items on tickets
- On hold due to Vender, Users and Approvals need to intimate the respective vendors, users, and approvals.
- Coaching the IT team and Capacity Planning
- Reviews of the Incident Tickets timely basis in regulator interval of time
- Retrospective meetings on Critical tickets
- Impact analysis
- In comparison to other IT PS teams, the Server & Storage Team receives more change requests. And the majority of these requests are in the area of Application Software.
- We can say that the system is healthy based on the state of CRs because 85.19 percent of CRs are Closed Complete.
- Nearly 68 percent of CRs are addressed in less than 6 hours, and 98 percent are closed in less than 24 hours.
- A low count in the dataset at any particular moment is recommended for an emergency modification request. And the results of the analysis backed up this claim.
- The vast majority of the CRs were in the moderate range.