Rexon Movie Theatre

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1 DEFINE PHASE

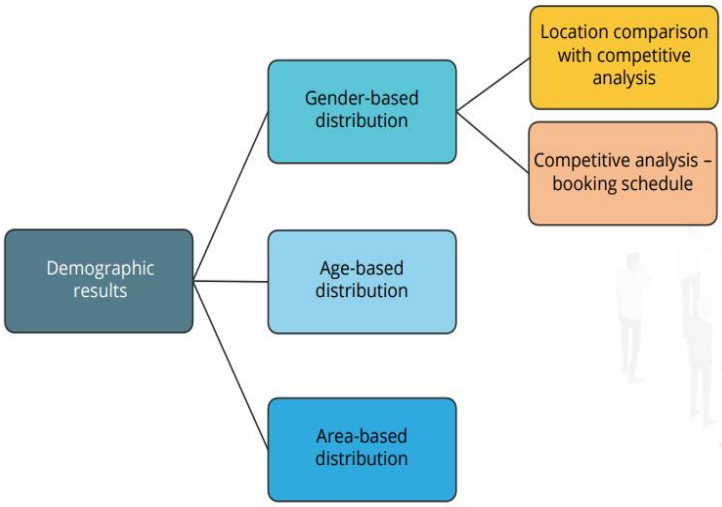
Project Background

Rexon Movie Theater (RMT) has been in the film exhibition business for the last three years, opening multiplexes at two areas: BMR and RSVO.

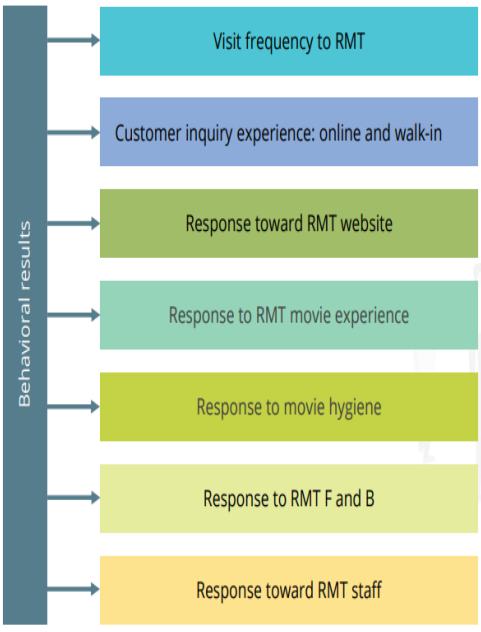
The company CEO has deputed Six Sigma Black Belt Tim Cruz to improve the current conditions so as to attract more audience. Tim conducts a survey to gauge customer experience at Rexon Movie Theater.

The survey was conducted from 22nd March to 26th April, 2019. 150 patrons participated in the survey: 75 for Rexon Movie Theater at BMR and 75 for Rexon Movie Theater at RSVO. The survey was done for two parts.

Survey Results: Part 1



Survey Results: Part 2



1.1 Gender-Based Distribution:

Gender-Based Distribution

Survey report part I				Percentage		Total	Total %
		BMR	RSVO	BMR	RSVO		
Gender	Female	40	29	53%	39%	69	46%
	Male	35	46	47%	61%	81	54%
Grand Total		75	75	100%	100%	150	100%

Analyze the data and identify the issues in the given data.

- **In RSVO, 61% of respondents are men.**
- **Less frequent female patrons in RSVO observed from a survey and security guard reaction**

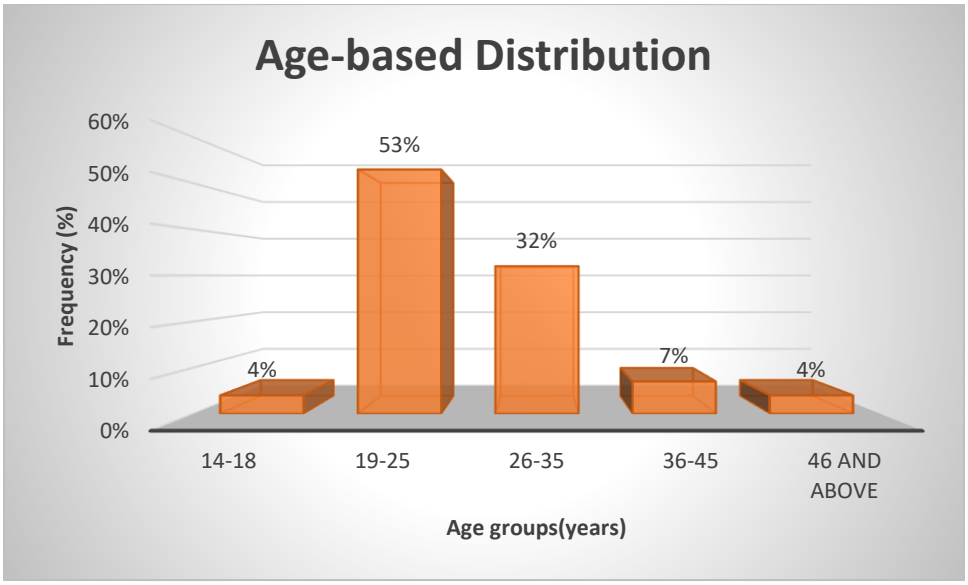
Inferences	
Largely, male members make purchase decisions at RSVO	Possible causes of female experience lacking at RSVO: • Is safety a concern? • Is watching films a taboo for females? • Females did not answer to the poll.

1.2 Age-based Distribution

Age-Based Distribution

BMR	Age groups (in years)				
	14-18	19-25	26-35	36-45	46 and above
Frequency %	4	53	32	7	4

Graphically represent the data and analyze it.



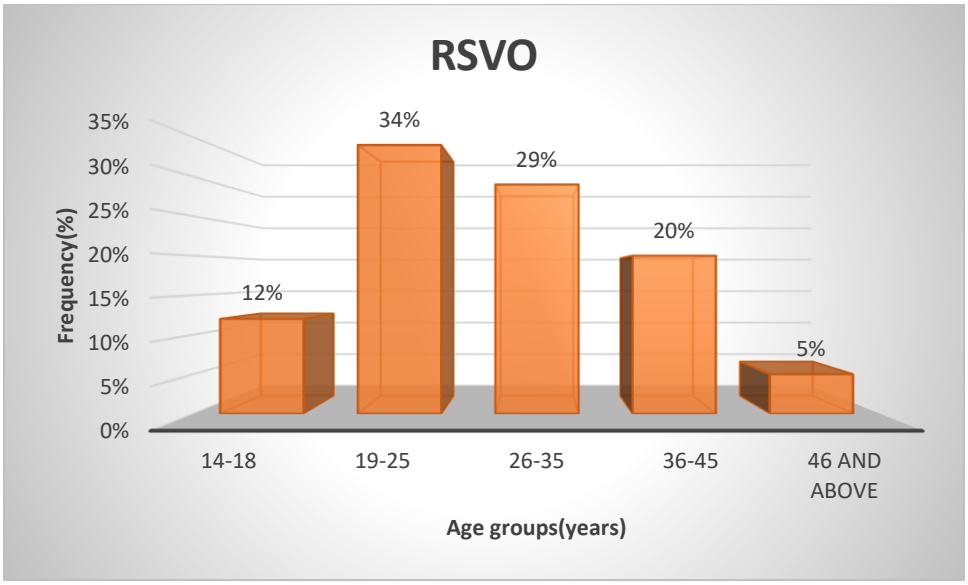
Graph 1: Age-based distribution BMR

Inferences	
The largest respondents in BMR are in the 19-25 age bracket.	The food court on the floor below BMR offers a wide range of delicacies acting as a meeting hub for young couples

Age-Based Distribution

BMR	Age groups (in years)				
	14-18	19-25	26-35	36-45	46 and above
Frequency %	4	53	32	7	4

Graphically represent the data and analyze it.



Graph 2: Age-based distribution RSVO

Inferences	
Relatively even distribution of age groups at RSVO	Presence of Fusion multi-cuisine family restaurant

Area-Based Distribution

Location comparison

Parameters	BMR	RSVO
Locality	Office and college area	Residential area
Competitor in the closest vicinity	E2 cinema: 8-10 km	AGP: 4.6 km Frames: 9.3 km
Premise benefit	E2 is a stand alone theater; BMR is in a commercial complex with food court below	RSVO has a family restaurant below; AGP is a stand-alone theater; frames is inside a popular shopping mall
Location advantage	BMR is ideally located	Frames has location advantage

Area-Based Distribution

Competitive analysis – booking schedule								
Competitive analysis		Days						
					M			
BMR	Adv booking	Y	Y	Y	Y	Y	Y	Y
	Schedule	2	2	1	2	1	1	1
E2	Adv booking	Y	Y	Y	N	N	N	N
	Schedule	1	1	1	2	2	2	2

BMR
- More shows on F, S, M
- Booking opens for entire week in advance

E2
- More shows on M, T, W, Thu
- Booking opens on Thu at 4:00 PM for advance booking for F, S, and Su

Area-Based Distribution

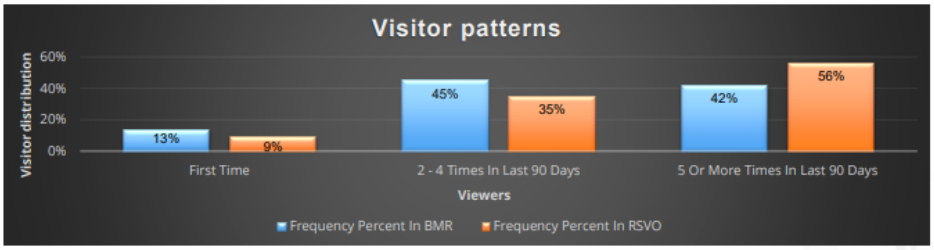
Competitive analysis – booking schedule								
Competitive analysis		Days						
		F	S	Su	M	T	W	Thu
RSVO	Adv booking	Y	Y	Y	Y	Y	Y	Y
	Schedule	3	3	3	1	1	1	1
AGP	Adv booking	Y	Y	Y	N	N	N	N
	Schedule	2	3	3	1	1	1	1
FRAMES	Adv booking	Y	Y	Y	N	N	N	N
	Schedule	3	3	3	2	2	2	2

RSVO
- More shows on F, S and Su
- Booking opens for entire week in advance

AGP and FRAMES
- More shows on F, S and Su
- Booking opens on Thu at 5:00 pm for advance booking for F, S and Su

Survey Report Part 2: Visit Frequency

Viewers	Frequency percent in BMR	Frequency percent in RSVO
First time	13%	9%
2 - 4 times in last 90 days	45%	35%
5 or more times in last 90 days	42%	56%



Inferences

Dominated by repeat viewers, who are IT professionals and students from nearby offices, hostels, and campus in BMR

Dominated by very frequent repeat viewers from the vicinity of RSVO

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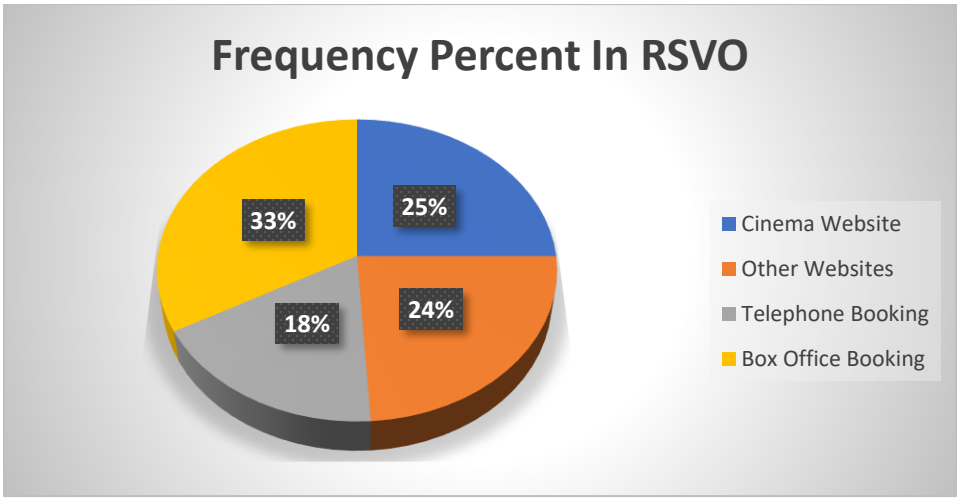
1.3 RMT Booking Pattern

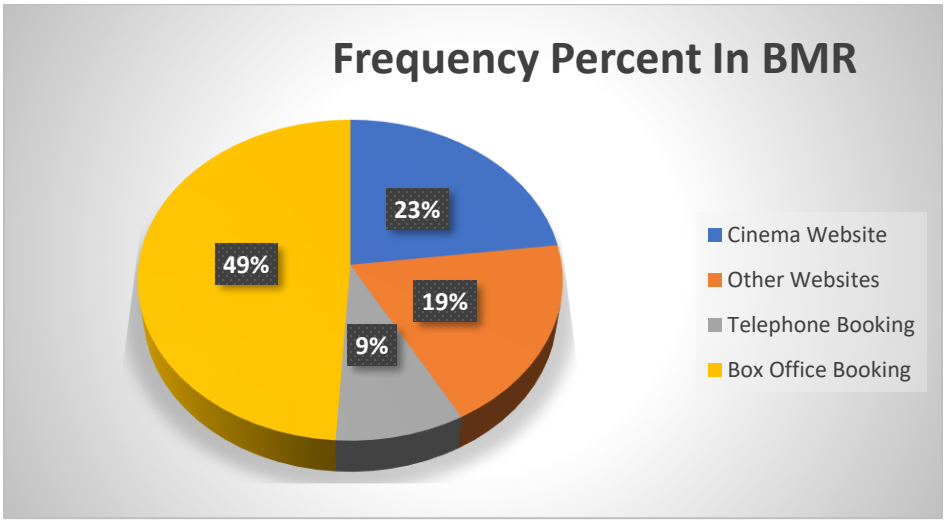
RMT Booking Pattern

Booking Options	Frequency Percent In BMR	Frequency Percent In RSVO
Cinema Website	23%	25%
Other Websites	19%	24%
Telephone Booking	9%	18%
Box Office Booking	49%	33%

Graphically represent the data and analyze it.



Graph 3: Booking pattern at RSVO



Graph 4: Booking pattern at BMR

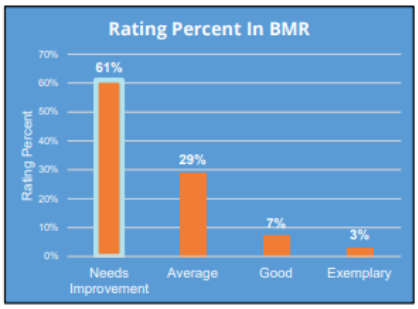
Inferences	
In BMR, viewers prefer box office purchases with no additional cost to the tickets.	Viewers prefer online purchases and are willing to pay additional convenience charges at RSVO.

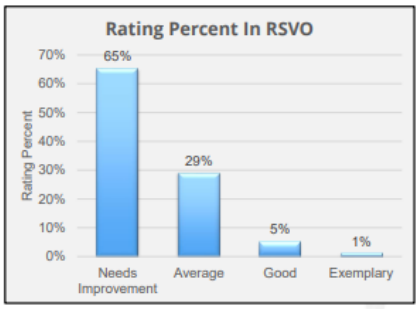
- **Phone booking is comparatively low in both places.**

1.4 Theater Experience

Theater Experience

Cinema experience	Rating percent in BMR	Rating percent in RSVO
Needs improvement	61%	65%
Average	29%	29%
Good	7%	5%
Exemplary	3%	1%





Analyze the data with respect to theater experience.

Inference:

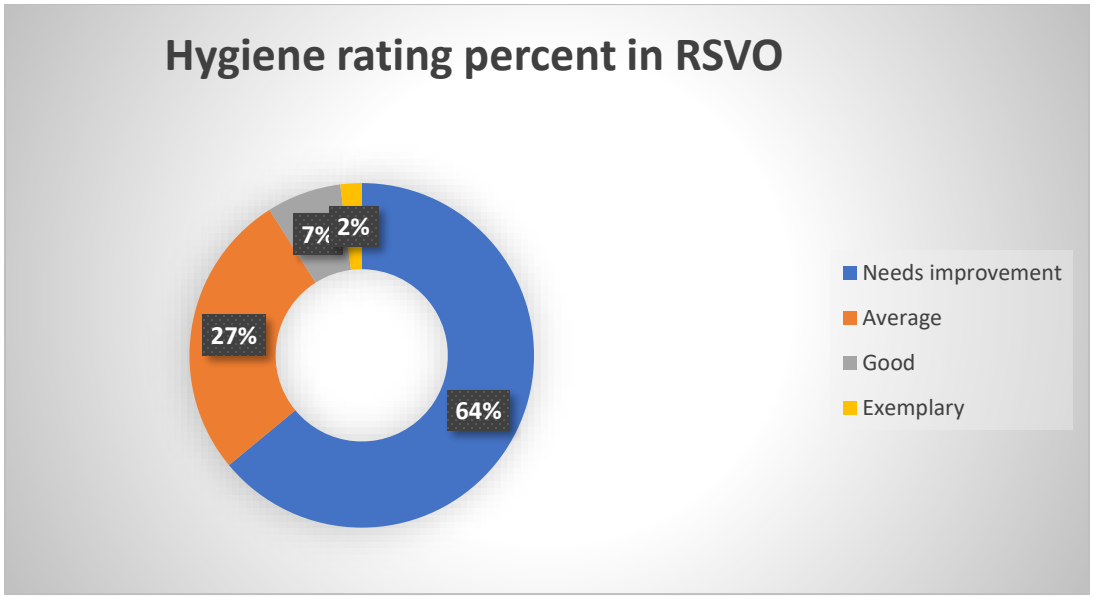
- **Viewers are not happy with the cinema experience at RMT (both BMR and RSVO)**
- **It is very evident in both locations that it needs improvement. Only a few percentages of people feel it is good and exemplary.**

1.4.1 Theatre Hygiene experience

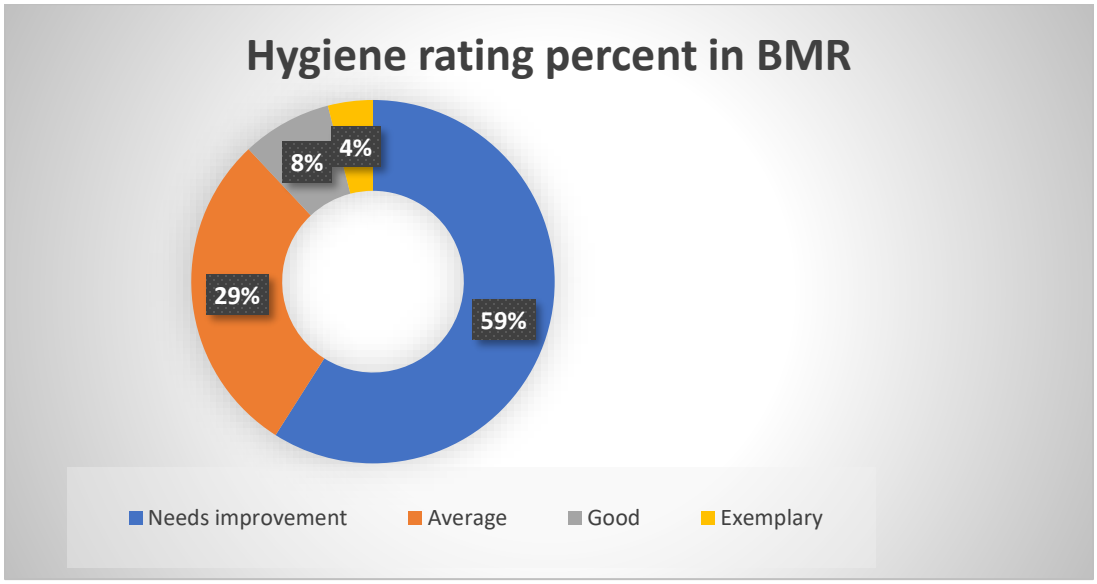
Theater Experience

Cinema hygiene	Rating percent in BMR	Rating percent in RSVO
Needs improvement	59%	64%
Average	29%	27%
Good	8%	7%
Exemplary	4%	2%

Create a donut chart and mention your inference.



Graph 5: Theatre Hygiene at RSVO



Graph 6: Theatre hygiene at BMR

Inference:

- **Viewers are facing issues with the cinema hygiene at RMT (both at BMR and RSVO)**
- **Very few percentages of the crowd say that locations are good and exemplary.**
- **It is observed more than 50% of the crowd voted for the need for improvements.**
- **It is evident that both locations need to work on their hygiene immediately or would lose a lot of customers.**

1.4.2 Theatre F and B Experience:

RMT F and B Experience

F and B price	Rating percent in BMR	Rating percent in RSVO
Affordable	37%	45%
Expensive yet will buy	39%	31%
Expensive; will not buy	24%	24%

F and B quality	Rating percent in BMR	Rating percent in RSVO
Needs improvement	7%	5%
Average	23%	25%
Good	32%	39%
Exemplary	38%	31%

F and B variety	Rating percent in BMR	Rating percent in RSVO
Needs to increase varieties	17%	15%
Serves sufficient varieties	83%	85%

What do you infer from the data?

Inferences on Food and Beverages:

- **Pricing experience: The majority of the crowd feels it is affordable and expensive yet will buy and of course, some feel it is expensive and will not buy in both locations.**
- **Quality experience: The majority of the crowd is happy with the quality. Very few feel it needs improvements.**
- **Variety experience: The majority of the crowd agreed and was happy with the variety.**

1.5 RMT Staff Performance

RMT Staff Performance

Parameter	RSVO	BMR
Staff is friendly	67%	69%
Staff is well-behaved	68%	68%
Staff is cooperative	51%	53%
Staff is helpful	53%	55%

Do you see any problem with respect to the staff?

Viewers are satisfied with the RMT staff (both at BMR and RSVO) but there is a scope for improvement.

RMT Areas of Improvement

Viewers are unhappy with the theater experience at RMT (both BMR and RSVO)

Viewers are facing issues with the hygiene at RMT (both BMR and RSVO)

Inferences

Currently, viewers are still visiting RMT; however, if the issues are not addressed, they would soon opt for other alternatives

Project Charter

Create a project charter for the following elements.

Business Case
- Why should we do this task?
- What will be the impact of not improving the process?

Problem Statement
- What *pain* are we experiencing?
- What are the opportunities?
- How long has the problem existed?

Objectives
- What are our improvement objectives and targets?
- How much do we want to achieve?

Project Scope
- What are the boundaries of this process?
- What processes are we addressing?
- What is within and beyond the scope?

Key Milestones
- What are the key milestones to achieve?

Team Selection
- Who are the team members?
- What responsibilities will they have?

RKM

1.6 Project Charter Document

Project Name: Rexon Movie Theatre

PROJECT CHARTER PURPOSE:

The project needs to be done to reduce Overhead costs, vide printing course material and posting of course material to different cities in India and overseas are high. The approximate charge of printing per book is INR 1000/- and the approximate posting charge is INR 500/-.

Problem Statement:

- An overall average of 63% of viewers are dissatisfied with the RMT movie experience, and 62% are dissatisfied with RMT cinema hygiene.
- If the difficulties are not solved immediately, viewers will choose other options, reducing revenue and making it difficult for RMT to continue with the business in the following 6- 8 months.
- This could result in a shutdown or RMT being taken over by competitors.

Objectives (Goal Statement):

In the next 8 months, improve the RMT cinema experience for BMR and RSVO by 70% and RMT cinema hygiene by 85% in order to retain existing viewers and attract viewers from competition for increased profitability.

Business Case:

- If the RMT cinema experience and hygiene are not improved, competitors E2, AGP, and Frames will gain RMT market shares in the next 6-8 months, with the problem affecting existing RMT viewers by 50% more than the current condition, resulting in a 70% revenue drop by the end of the year.
- If RMT cinema experience and hygiene improve by 75% in the next 6-8 months, we will be able to retain current viewers while also gaining 15% of the growing market share due to increased brand value and better viewer experience and reviews, pushing revenue up by 20% in the next year.

Project Scoping:

To work on and improve RMT cinema experience and RMT cinema hygiene, which will improve viewer experience and aid in retaining existing viewers while boosting new viewers, hence enhancing total profitability for RMT for both BMR and RSVO.

Prepared by Rathish Kumar Manjunath

1.7 RACI Model

Team members	Define	Measure	Analyse	Improve	Control
Black belt	A	A	R/A	R/A	A
Process owner	C/I	C/I	C	C/I	A/I
Process manager	C	C	C	C	R/I
Green belt	R	R			
Financial representative			I		

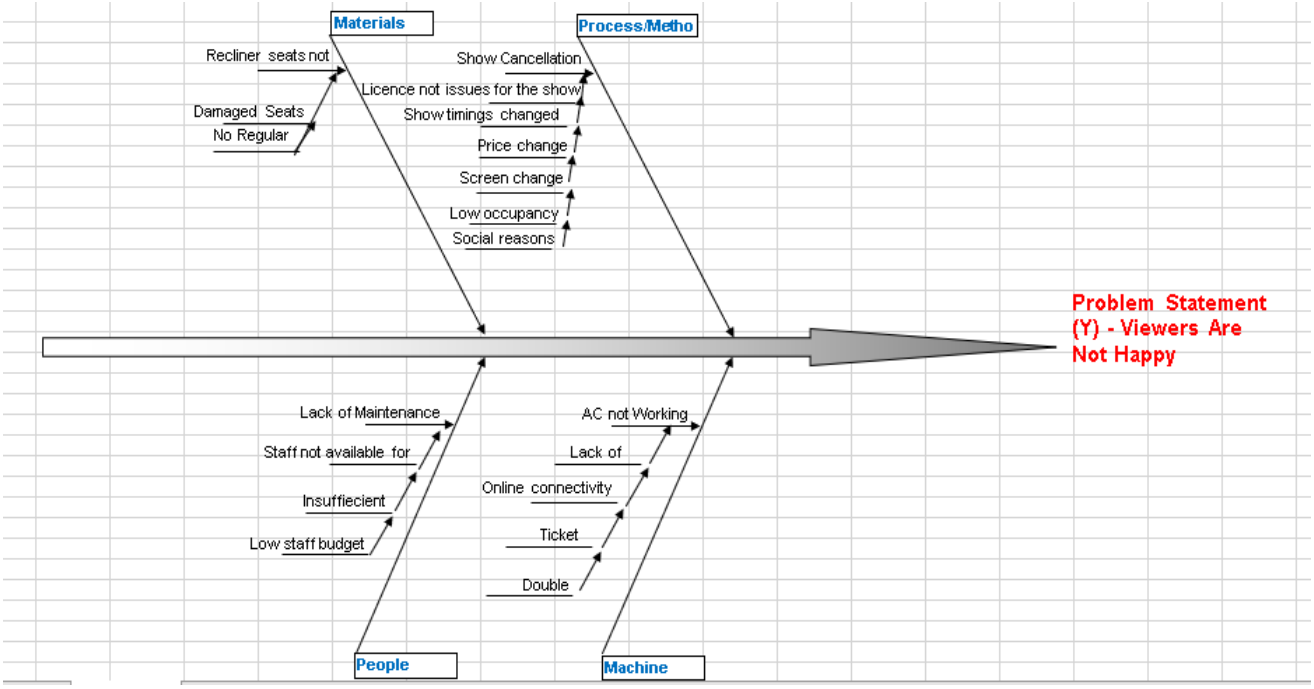
2 MEASURE PHASE

2.1 Fishbone diagram

Fishbone Diagram

Use fishbone diagram to represent the root causes.

Potential causes for viewers not being happy	
Recliner seats not reclining	Price change
Damaged seats	Show timings changed
No regular maintenance done	Screen change
Staff not available for maintenance activities	Low occupancy
Lack of maintenance	Social reasons
Insufficient workforce	AC not working
Low staff budget	Lack of TPM
Show cancelation	Online connectivity issue while ticket booking
Licence not issued for show	Ticket denial
	Double booking



2.2 Cinema viewers' experience gander-based

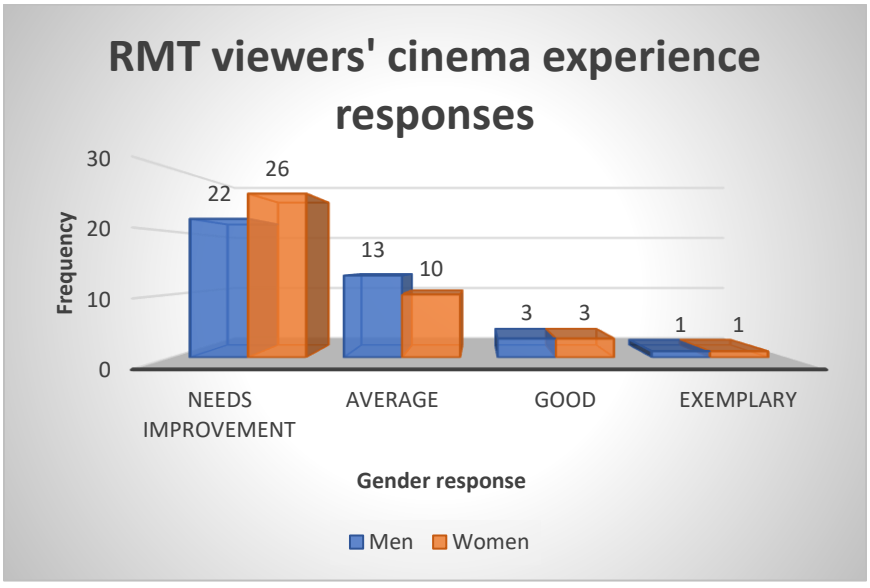
Viewers' Theater Experience Responses (40 Women and 40 Men)

Names	Needs Improvement	Average	Good	Exemplary
Emma	Y			
Ava		Y		
Sophia	Y			
Mia	Y			
Harper			Y	
Olivia				Y
Isabella	Y			
Charlotte	Y			
Amanda	Y			
Jia		Y		
Evelyn	Y			
Abigail		Y		
Emily	Y			
Avery			Y	
Sofia	Y			
Camila	Y			
Aria		Y		
Scarlett	Y			
Victoria	Y			
Madison		Y		
Luna	Y			
Grace	Y			
Chloe	Y			
Penelope		Y		
Layla	Y			
Riley	Y			

Names	Needs Improvement	Average	Good	Exemplary
Zoey			Y	
Nora		Y		
Lily	Y			
Eleanor	Y			
Hannah	Y			
Lillian		Y		
Addison	Y			
Aubrey	Y			
Ellie		Y		
Stella	Y			
Natalie	Y			
Zoe		Y		
Leah	Y			
Hazel	Y			
Chris	Y			
Andy			Y	
Calvin	Y			
Alex	Y			
Robert		Y		
Nick		Y		
Brian	Y			
Chris		Y		
Dave	Y			
Patrick		Y		
Colin	Y			
Michael	Y			
Dan		Y		

Names	Needs Improvement	Average	Good	Exemplary
Steve	Y			
Ben	Y			
Adam		Y		
Eric	Y			
Jeff	Y			
Andrew		Y		
Matt			Y	
Harry	Y			
Joe	Y			
George		Y		
John			Y	
Keith	Y			
Kevin		Y		
James	Y			
Christian		Y		
Mark	Y			
Peter	Y			
Zach		Y		
Ryan	Y			
Sam	Y			
Tom		Y		
Trevor	Y			
Will	Y			
Noah		Y		
Austin				Y
Jade	Y			
Ashley	Y			

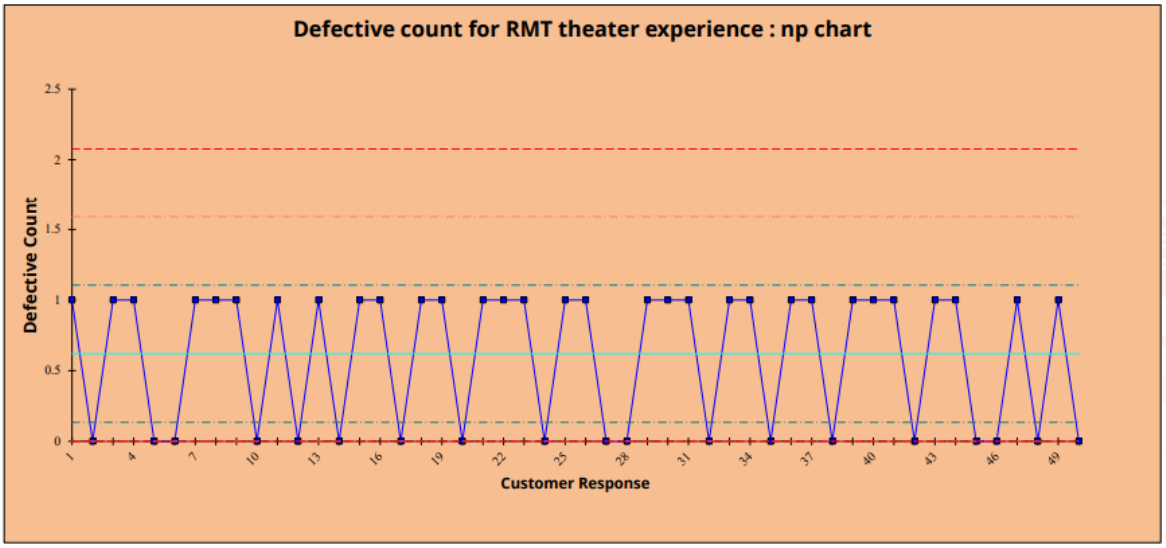
Graphically represent the data and analyze it



Graph 7: Cinema experience at RMT

Women viewers are more uncomfortable with the RMT cinema experience than male viewers

Viewers' Theater Experience Responses (40 Women and 40 Men)

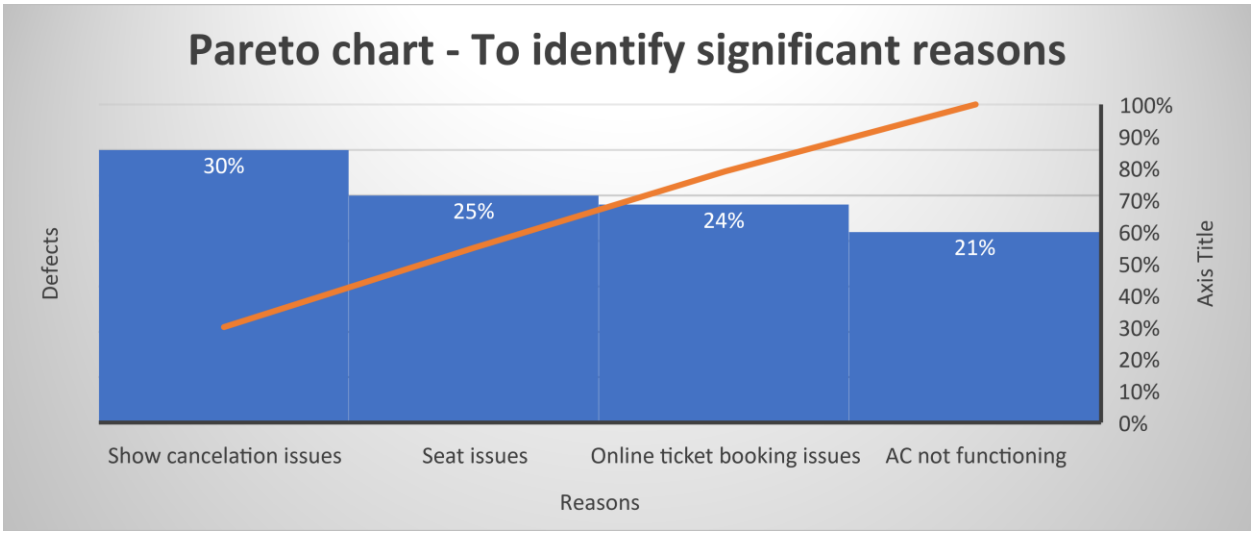


RMT Viewers' Poor Theater Experience: Reasons

Seat issues	Online ticket booking issues	AC not functioning	Show cancelation issues
25%	24%	21%	30%

Create a pareto chart and analyze the data

2.3 Pareto chart



Graph 8: Pareto chart

Observation:

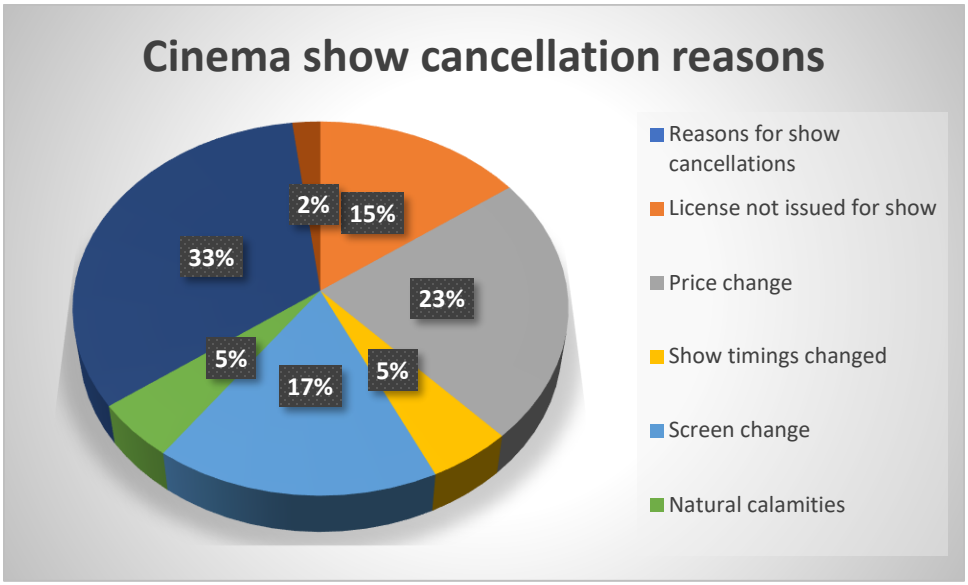
Show cancellations are primarily the highest reason for poor theatre experience followed by seat issues, online booking issues and AC not functioning.

Reasons for Show Cancelation

Reasons for show cancellations	
License not issued for show	15%
Price change	23%
Show timings changed	5%
Screen change	17%
Natural calamities	5%
Low occupancy	33%
Social reasons	2%

Use pie chart to analyze the data graphically and highlight the major issues for the show cancellation

2.4 Show cancellation reasons



Graph 9: Show cancellation reasons

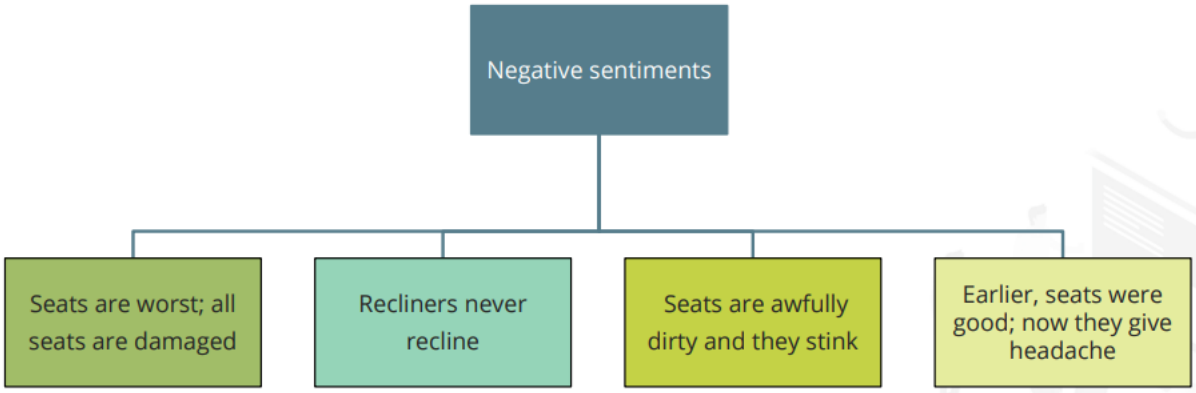
Observation:

- **Majority of the show cancellation is because of the low occupancy by 33%.**
- **Price change and screen change are the second highest concerns.**

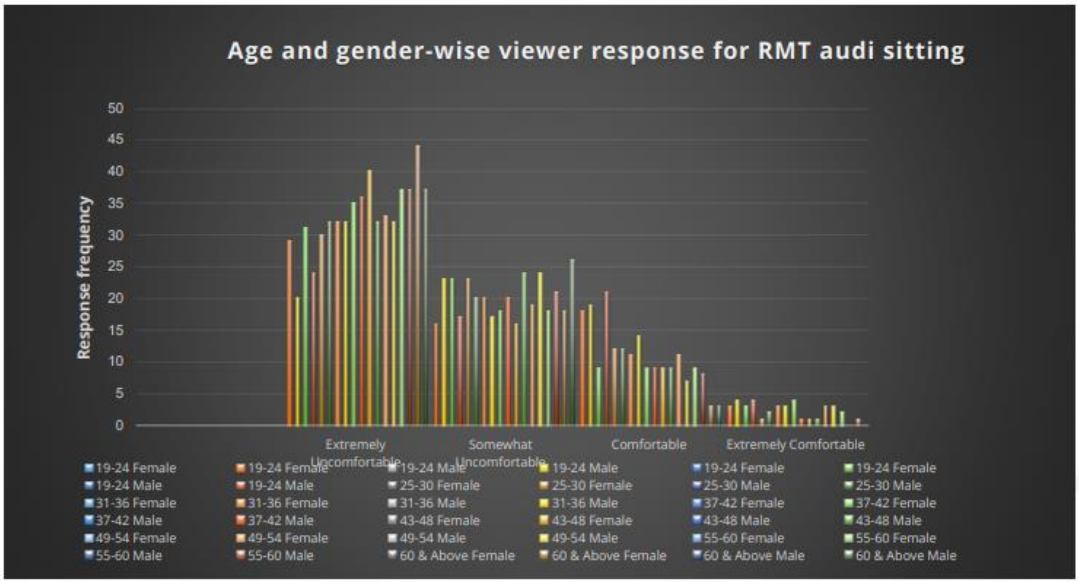
RMT Auditorium Seating Experience

Age	Gender	Profession	Response frequencies towards seats			
			Extremely uncomfortable	Somewhat uncomfortable	Comfortable	Extremely comfortable
19-24	Female	Working	15	9	8	1
		Student	14	7	10	2
	Male	Working	9	12	9	3
		Student	11	11	10	1
19-24	Female	Working	16	11	4	2
		Not working/student	15	12	5	1
	Male	Working	13	9	8	3
		Not working/student	11	8	13	1
25-30	Female	Working	17	11	5	0
		Not working	13	12	7	1
	Male	Working	15	11	6	1
		Business	17	9	6	1
31-36	Female	Working	19	9	4	1
		Not working	13	11	7	2
	Male	Working	15	7	9	2
		Business	17	10	5	1
37-42	Female	Working	18	9	4	2
		Not working	17	9	5	2
	Male	Working	17	11	4	1
		Business	19	9	5	0
43-48	Female	Working	21	9	3	0
		Not working	19	7	6	1
	Male	Working	17	11	5	0
		Business	15	13	4	1
49-54	Female	Working	16	8	6	3
		Not working	17	11	5	0
	Male	Working	15	13	4	1
		Business	17	11	3	2
55-60	Female	Working	20	7	5	1
		Not working	17	11	4	1
	Male	Working	18	10	5	0
		Business/retired	19	11	3	0
60 and Above	Female	Working	21	9	2	1
		Not working	23	9	1	0
	Male	Working	18	14	1	0
		Not working	19	12	2	0

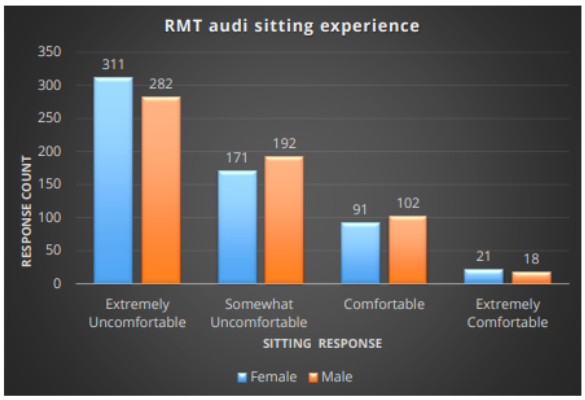
RMT Auditorium Seating Experience



RMT Auditorium Seating Experience



RMT Auditorium Seating Experience



Gender responses	Female	Male	Female %	Male %
Extremely uncomfortable	311	282	26.17845118	23.73737
Somewhat uncomfortable	171	192	14.39393939	16.16162
Comfortable	91	102	7.65993266	8.585859
Extremely comfortable	21	18	1.767676768	1.515152

Analyze the data and list your observations.

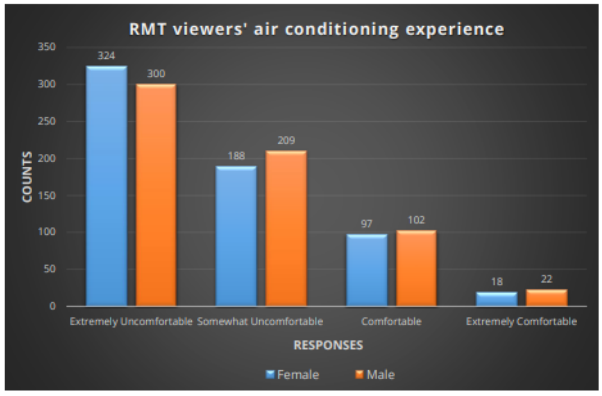
Observations:

- **26.17% of female viewers and 23.73% of male viewers are extremely uncomfortable with the RMT Audi sitting experience.**
- **26.17% of female viewers and 23.73% of male viewers are uncomfortable with the RMT Audi sitting experience.**

RMT Auditorium Air Conditioning Experience

Age	Gender	Profession	Response frequencies towards AC			
			Extremely uncomfortable	Somewhat uncomfortable	Comfortable	Extremely comfortable
19-24	Female	Working	16	10	7	2
		Student	15	8	11	1
	Male	Working	10	13	10	2
		Student	12	10	11	2
19-24	Female	Working	18	13	3	1
		Not working/student	14	13	6	2
	Male	Working	14	11	9	1
		Not working/student	13	11	10	1
25-30	Female	Working	19	9	5	2
		Not working	14	13	7	1
	Male	Working	18	9	7	1
		Business	19	10	5	1
31-36	Female	Working	19	11	5	0
		Not working	15	13	6	1
	Male	Working	16	8	10	1
		Business	15	13	6	1
37-42	Female	Working	19	9	5	2
		Not working	18	10	6	1
	Male	Working	18	11	5	1
		Business	19	11	5	0
43-48	Female	Working	23	8	3	1
		Not working	17	11	6	1
	Male	Working	19	11	5	0
		Business	16	15	3	1
49-54	Female	Working	19	9	7	0
		Not working	17	11	6	1
	Male	Working	17	15	2	1
		Business	18	13	3	1
55-60	Female	Working	21	9	4	1
		Not working	17	11	5	2
	Male	Working	19	11	4	1
		Business/retired	19	12	3	1
60 and Above	Female	Working	22	9	3	1
		Not working	21	11	2	1
	Male	Working	19	13	2	1
		Not working	19	12	2	2

RMT Auditorium Air Conditioning Experience



Gender responses	Female	Male	Female %	Male %
Extremely uncomfortable	324	300	25.71428571	23.80952381
Somewhat uncomfortable	188	209	14.92063492	16.58730159
Comfortable	97	102	7.698412698	8.095238095
Extremely comfortable	18	22	1.428571429	1.746031746

Analyze the data and list your observations.

Observations:

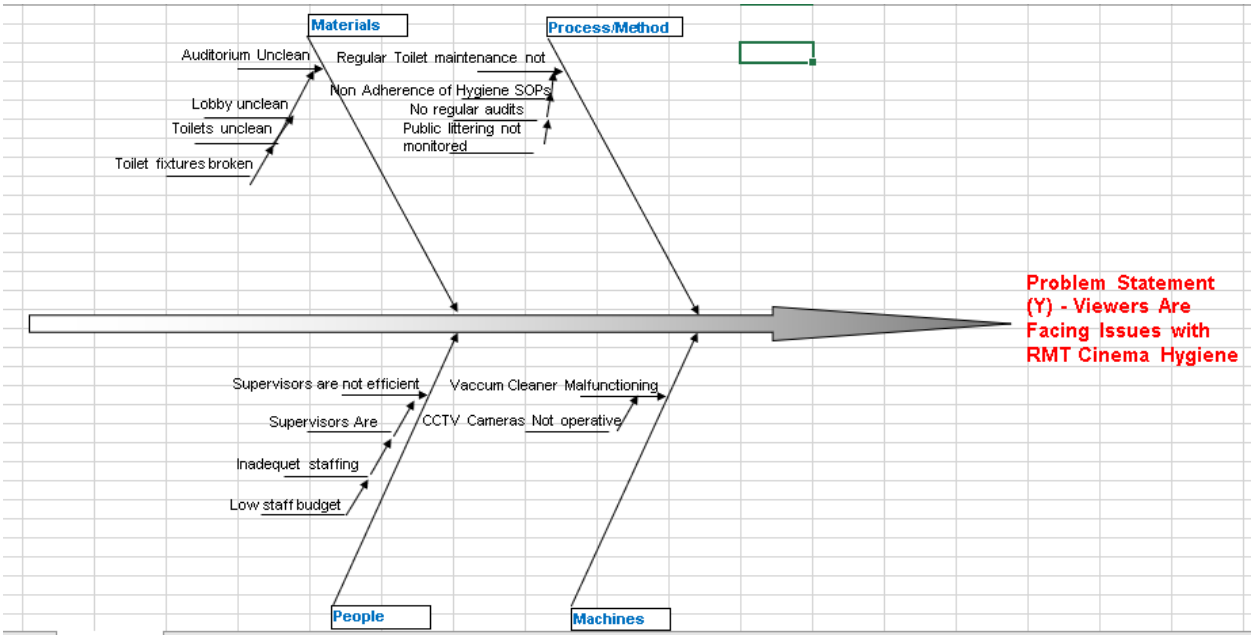
- **25.71% of female viewers and 23.80% of male viewers are extremely uncomfortable with the RMT Audi AC experience.**
- **14.92% of female viewers and 16.58% of male viewers are uncomfortable with the RMT Audi AC experience**

2.5 Cause and Effect Analysis

Cause and Effect Analysis

Use fishbone diagram to represent the root causes.

Potential causes for Viewers are facing issues with RMT hygiene	
Auditorium Unclean	Public Littering Not Monitored
Lobby Unclean	Vacuum Cleaner Malfunctioning
Toilets Unclean	CC TV Cameras Not Operative
Toilet Fixtures Broken	Supervisors Are Not Efficient
No Regular Toilet Maintenance	Supervisors Are Overburdened
Non-adherence of Hygiene SOPs	Inadequate Staffing
No Regular Audits	Low Staff Budget

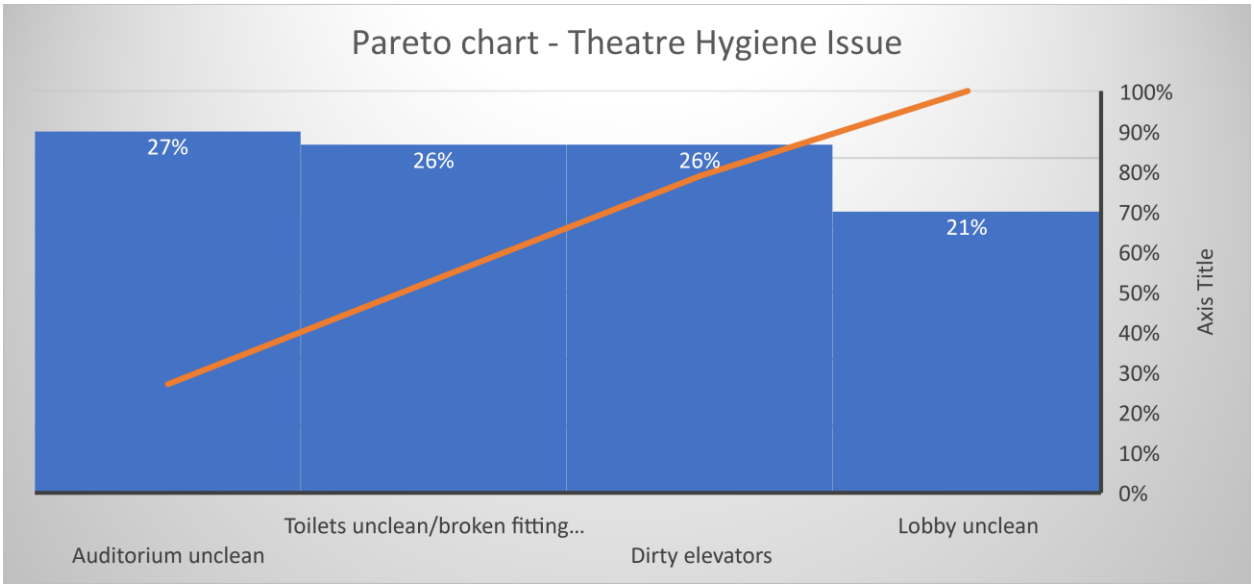


Cause and Effect Analysis

Theater hygiene issue:	
Auditorium unclean	27%
Lobby unclean	21%
Toilets unclean/broken fittings/toilets non-functional	26%
Dirty elevators	26%

Create a pareto chart and analyze the data

2.6 Pareto Chart



Graph 10: Pareto chart

Observation:

- **Hygiene is very crucial and a basic requirement for any facility.**
- **The majority of the crowd feels the facility has a lot of problems with cleanliness. This needs to be addressed and improved.**

2.7 SIPOC

SIPOC

Customer looks up a movie shown at RMT theaters online or offline.

Customer checks for the show timings, ticket prices, ticket availability, chooses the seats in the auditorium, books the tickets online or at the counter by paying, reaches RMT theater 15 minutes prior to the show time, undergoes security check, takes the elevator, reaches the RMT lobby, and waits.

After auditorium cleaning is completed by RMT housekeeping, the customer is allowed to enter the auditorium. The customer then enters and sits on the allocated seat. During the movie or the interval, the customer may use the toilets and may order for RMT F and B.

When movie is over, the customer leaves the auditorium through the exit. Customer uses the exit steps to go out of the RMT premises.

Using this data, create a SIPOC diagram and a process map.

Suppliers	Inputs	Process		Outputs	Customers	
(Providers of the required resources)	(Resources required by the process)	(Top level description of the activity)		(Deliverables from the process)	(Anyone who receives a deliverable from the	
		Start:	Customer checks for movie at RMT online or offline		Requirements	
RMT Cinema	Box office	High-level process description:	Customer checks for the show timings	Movie tickets	Receiver:	Customers
Housekeeping	ABC security staff			Movie viewing experience		
RMT F and B	Elevator			F and B experience		
				RMT food and beverage		
ABC Security	RMT lobby		Customer checks for the ticket prices	Items purchased by customers		
RMT Staff	Projector and sound		Customer checks for the ticket availability			
	Screen		Customer chooses the seats in the auditorium			
	Recliner seats		Customer books the tickets online or at the counter by paying			
	AC		Customer reaches RMT theatre, 15 minutes prior to the show time			
	Lighting		Customer undergoes security check			
	F and B		Customer takes the elevator			
	Toilets		Customer reaches the RMT lobby and waits			
	Drinking water		completed by RMT housekeeping, entry to audi is opened			
	Exit steps		Customer enters the auditorium			
			Customer sits on the allocated seat			
			During movie or interval customer may order for RMT F			
			When movie is over, customer leaves the auditorium through the exit			
		End:	Customer uses the exit steps to go out of the RMT cinema			

2.8 Cause and Effect Matrix

Cause and Effect Matrix

Kpovs	Viewer theater experience	Viewer ticketing experience	Viewer amenities access
Weightage	**10**	**9**	**9**
KPIVs			
Smooth ticket booking	7	10	0
Lobby clean and fresh	5	0	10
Auditorium clean and fresh	10	2	6
Perfect recliner seats	10	3	4
AC optimally working	10	2	3
Toilets clean, fresh and operative	6	3	10
Clean and functional elevators	5	2	9

Analyze the rank from the given data and list your observations.

Cause & Effect Matrix

	KPOVs	Viewer Cinema Experience	Viewer ticketing exoerience	Viewer Amenities access												Total	Rank
		10	9	9													
	Process Inputs															Total	Rank
1	Smooth Ticket booking	7	10													160	4
2	Lobby clean and fresh	5		10												140	7
3	Auditorium clean and fresh	10	2	6												172	2
4	Perfect recliner seats	10	3	4												163	3
5	AC optimally working	10	2	3												145	6
6	Toilets clean, fresh and operative	6	3	10												177	1
7	Clean and fuctional elevators	5	2	9												149	5
8																	
9																	

Observation:

- **The highest improvement area is the Toilets.**
- **Highlighted boxes are areas that should be prioritized for improvement.**

3 ANALYZE PHASE:

RMT Viewers' Theater Experience

Show cancelation reasons:

1. Low occupancy
2. Price change
3. Screen change
4. License not issued for show
5. Show timings changed
6. Natural calamities
7. Social reasons

Resolutions to stop show cancelation:

1. Strict adherence to movie projections even at **no guest attendance** to save studio
2. Introduce dynamic pricing per demands
3. Remove convenience charges for online bookings
4. Introduce **app** offers during off-day or offbeat show timings
5. Announce confirmed show timings and issue ticket after the license to projection is confirmed
6. Stringently follow **one day advance booking** policy
7. Take customer details at box office while issuing physical tickets for advance bookings
8. Take customer details at box office while issuing physical tickets for advance bookings
9. Train staff to enable **special case** management without viewer dissatisfactions

RMT Auditorium Seating and Hygiene

Recliners maintenance:

1. Check and change the damaged seat covers
2. Check and repair the recliners for reclining
3. Check and change the seat sponge
4. Audit the recliners every 5 days
5. Disinfect the recliners after the last show every day
6. Monitor the viewers damaging the seats intentionally at any point

Auditorium hygiene:

1. Clean and audit the auditorium after every show
2. Audit for SOP adherence
3. Disinfect and clean the auditorium every day after the last show
4. Change the carpets every month
5. Introduce the weekly cleaning 5s
6. Clean and disinfect the AC ducts every week

RMT Auditorium AC and Online Portals

Air conditioning maintenance:

1. Check and maintain the inner acoustic insulation on panels
2. Check the AC fans for low noise
3. Maintain AC for fresh air treatment with highly variable occupancy rate for comfort
4. Maintain air-heating and/or air-cooling AC capacity
5. Monitor humidity control for viewers' comfort
6. Regular AMC to be done for the auditorium AC
7. Regular electricity consumption check to be performed

RMT online portals:

1. Remove extra **convenience charges** from RMT portal to empower viewers to book tickets at their convenience
2. Introduce dynamic pricing through online portals
3. Install better servers for faster and better online viewer experience
4. Launch and maintain **RMT app** for cell phone users
5. Provide bonus points for repeat bookings with RMT
6. Do regular maintenance of websites and apps with regular update posting
7. Encourage and monitor viewers' online reviews

RMT Theater Hygiene

Lobbies and toilets maintenance:

1. Maintain lobby seats and tables after every 2 hours
2. Check and maintain lobby air conditioning regularly
3. Check and maintain lobby lightings
4. Repair the broken fixtures in the toilets
5. Disinfect the lobby and toilets in every shift
6. Ensure the toiletries are available for the viewers
7. Audit the toilets and lobbies for maintenance adherence and share reports in every shift

RMT elevator maintenance:

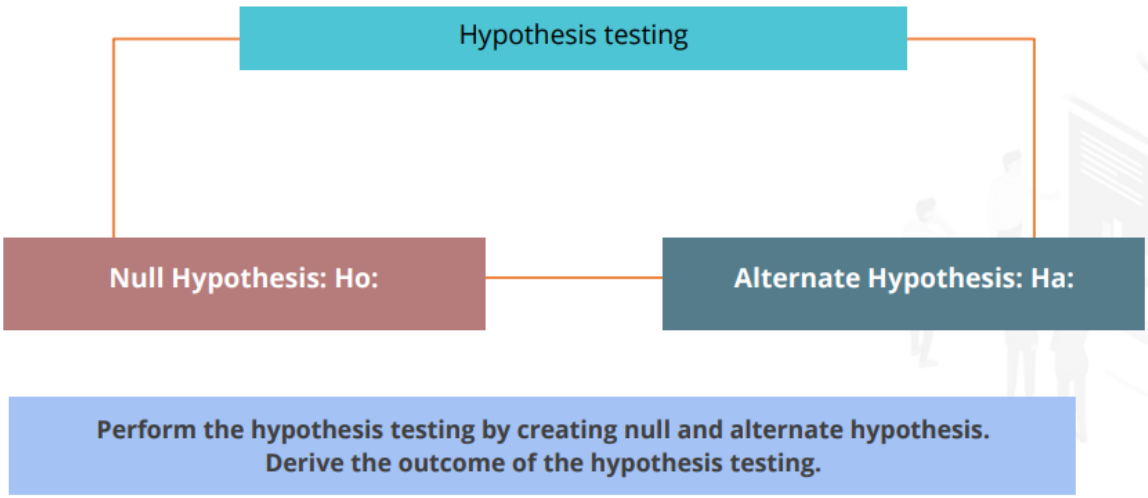
1. Regular monthly maintenance from the AMC
2. During every shift, check the functioning of elevator buttons, lights, and fans
3. Audit the presence of elevator operators in every shift
4. Introduce weekly cleaning 5s
5. Clean and disinfect the elevators in every 3 hours
6. Maintain the reports with the senior management daily, weekly, and monthly

3.1 RMT Audi Temperature Hypothesis Testing

RMT Audi Temperature

Temperature samples in degrees: pre-maintenance	Temperature samples in degrees: post-maintenance
19	23
16	24
27	23
16	25
28	26
23	23
21	26
17	24
20	23
22	26
25	23
17	24
29	25
25	26
22	26
19	25
17	23
26	26
21	25
27	25

RMT Audi Temperature



Null Hypothesis (Ho): The Audi sample temperatures are similar, pre- and post-maintenance.

Alternate Hypothesis (Ha): The Audi sample temperatures are dis-similar, pre- and post-maintenance.

	A	B	C	D
1	t-Test: Paired Two Sample for Means			
2				
3		*Temperature samples in degrees: pre-maintenance*	*Temperature samples in degrees: post-maintenance*	
4	Mean	21.85	24.55	
5	Variance	17.92368421	1.523684211	
6	Observations	20	20	
7	Pearson Correlation	0.288542573		
8	Hypothesized Mean Difference	0		
9	df	19		
10	t Stat	-2.97878469		
11	P(T<=t) one-tail	0.003857752		
12	t Critical one-tail	1.729132812		
13	P(T<=t) two-tail	0.007715505		
14	t Critical two-tail	2.093024054		
15				
16				

Hypothesis testing:

P(T≤t) two tail = 0.007715505

The P value is less than 0.05 therefore the difference between the means is statistically significant. We will therefore reject the null hypothesis and conclude that there is a difference in the temperature pre- and post-maintenance.

Result: Reject Null Hypothesis

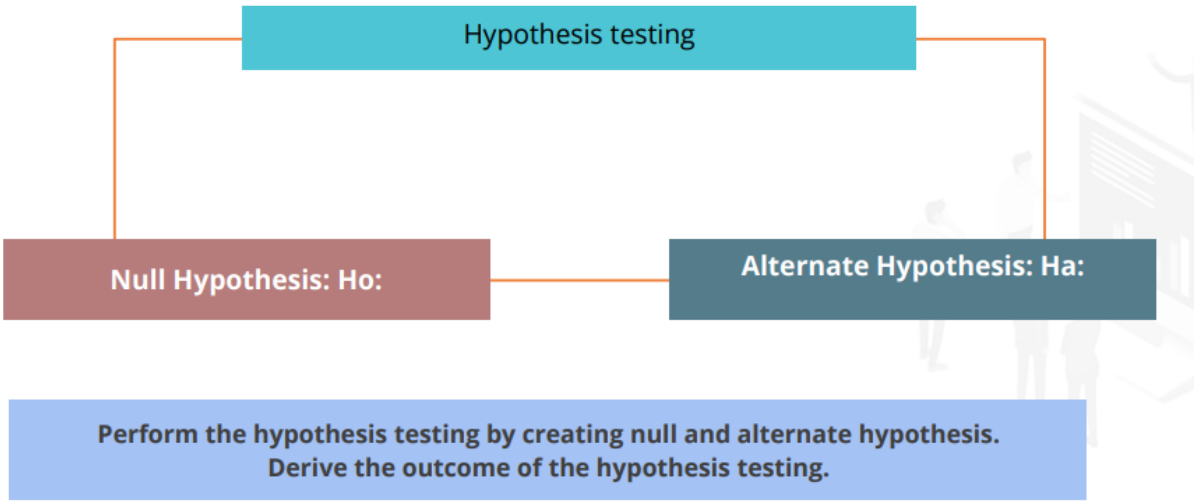
Alternate hypothesis (Ha): The Audi sample temperatures are dis-similar, pre- and post-maintenance.

3.2 RMT Audi Recliner Tilt Hypothesis Testing

RMT Audi Recliner Tilt

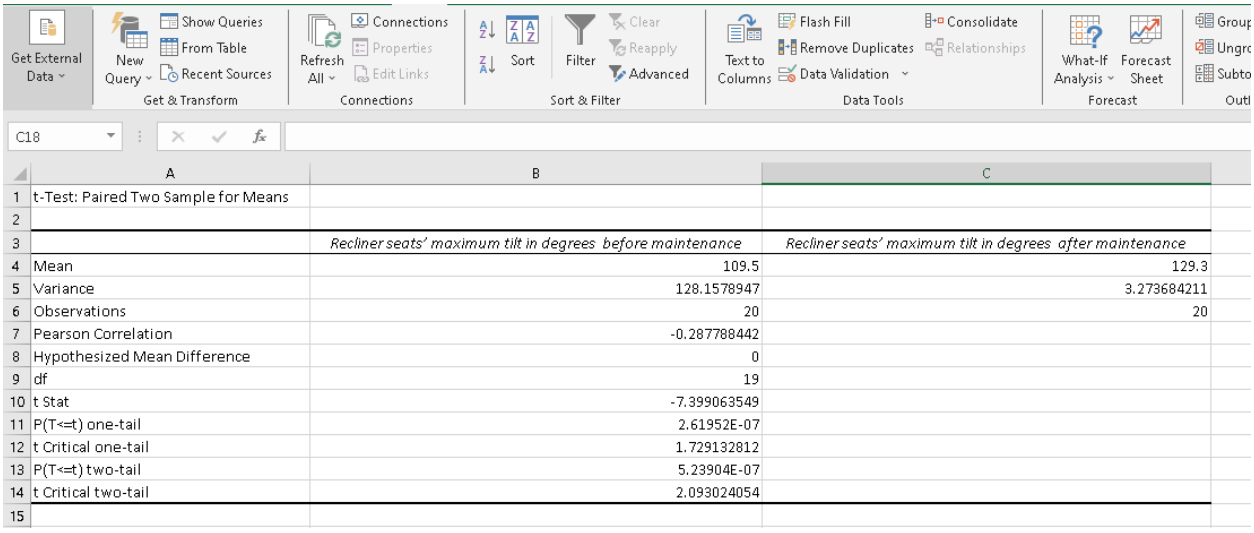
Recliner seats' maximum tilt in degrees before maintenance	Recliner seats' maximum tilt in degrees after maintenance
112	128
105	129
96	128
98	130
113	130
108	128
99	132
115	133
117	127
129	128
97	130
96	131
119	127
123	128
126	128
95	132
94	127
115	130
112	129
121	131

RMT Audi Recliner Tilt



Null Hypothesis (Ho): The Audi recliners are reclining similarly, pre- and post-maintenance.

Alternate Hypothesis (Ha): The Audi recliners are reclining dis-similarly, pre- and post-maintenance.



	A	B	C
1	t-Test: Paired Two Sample for Means		
2			
3		*Recliner seats' maximum tilt in degrees before maintenance*	*Recliner seats' maximum tilt in degrees after maintenance*
4	Mean	109.5	129.3
5	Variance	128.1578947	3.273684211
6	Observations	20	20
7	Pearson Correlation	-0.287788442	
8	Hypothesized Mean Difference	0	
9	df	19	
10	t Stat	-7.399063549	
11	P(T<=t) one-tail	2.61952E-07	
12	t Critical one-tail	1.729132812	
13	P(T<=t) two-tail	5.23904E-07	
14	t Critical two-tail	2.093024054	
15			

Hypothesis testing:

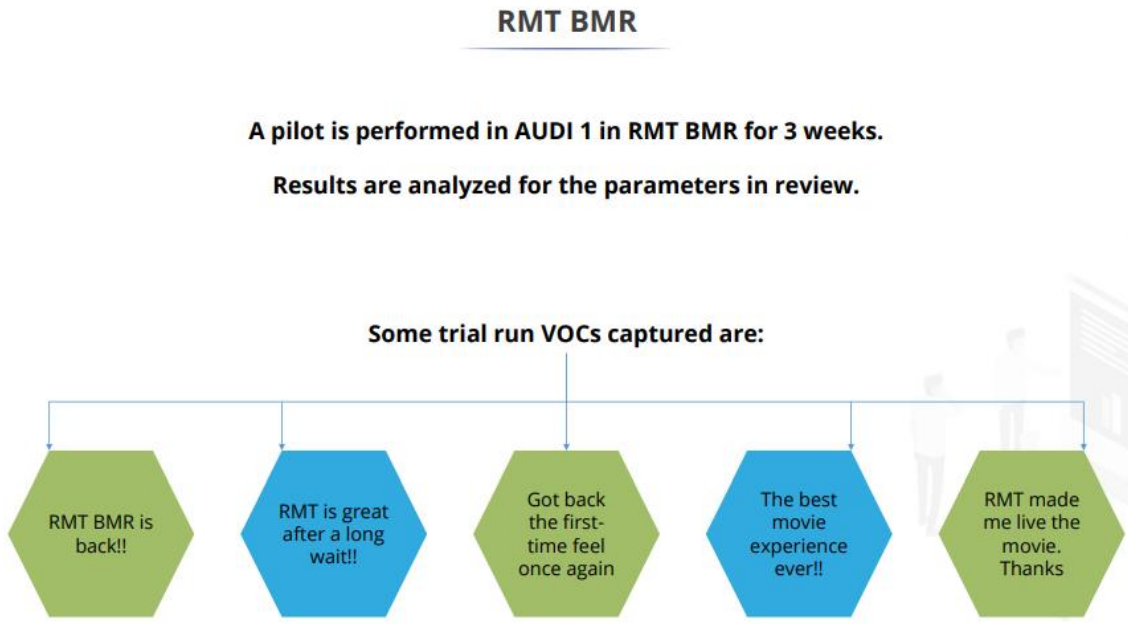
P(T≤t) two tail = 0.000000523904

The P value is less than 0.05 therefore the difference between the means is statistically significant. We will therefore reject the null hypothesis and conclude that there is a difference in the reclining pre- and post-maintenance.

Result: Reject Null Hypothesis

Alternate hypothesis (Ha): The Audi recliners are reclining dis-similarly, pre- and post-maintenance.

4 IMPROVE PHASE:

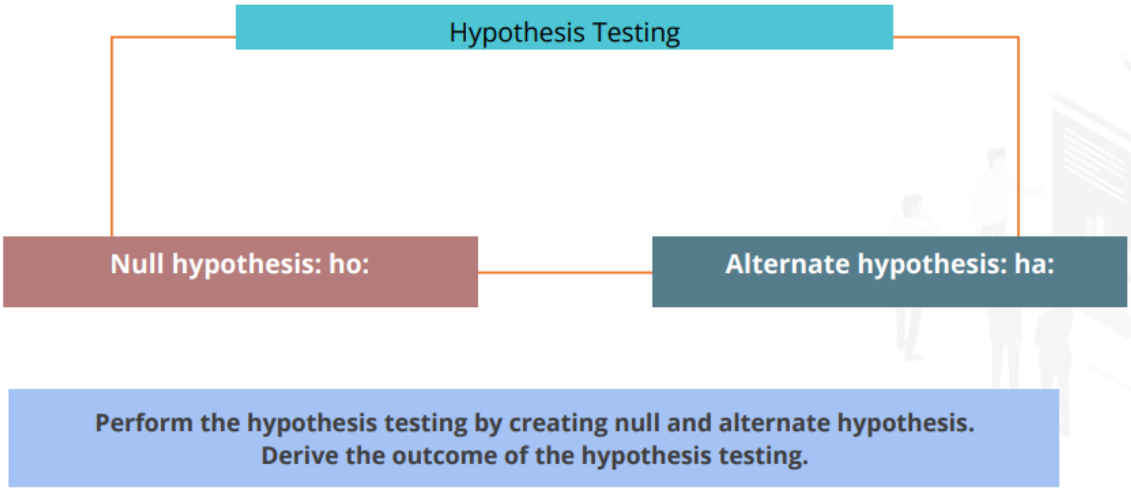


4.1 RMT Audi Temperature Optimality Analysis Hypothesis Testing

RMT Audi Temperature Optimality Analysis

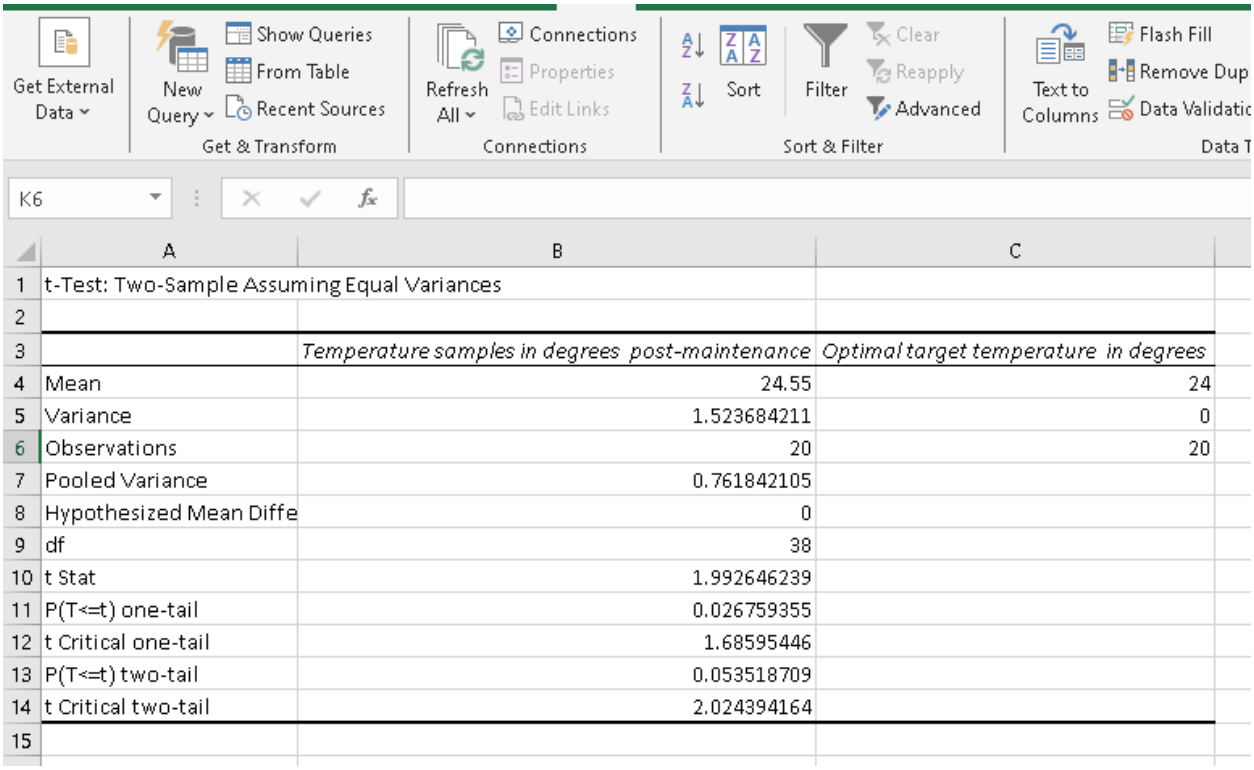
Temperature samples in degrees post-maintenance	Optimal target temperature in degrees
23	24
24	24
23	24
25	24
26	24
23	24
26	24
24	24
23	24
26	24
23	24
24	24
25	24
26	24
26	24
25	24
23	24
26	24
25	24
25	24

RMT Audi Temperature



Null Hypothesis (Ho): The Audi sample temperatures are similar to the optimal target temperature.

Alternate Hypothesis (Ha): The Audi sample temperatures are dis-similar to the optimal target temperature.



	A	B	C
1	t-Test: Two-Sample Assuming Equal Variances		
2			
3		*Temperature samples in degrees post-maintenance*	*Optimal target temperature in degrees*
4	Mean	24.55	24
5	Variance	1.523684211	0
6	Observations	20	20
7	Pooled Variance	0.761842105	
8	Hypothesized Mean Diffe	0	
9	df	38	
10	t Stat	1.992646239	
11	P(T<=t) one-tail	0.026759355	
12	t Critical one-tail	1.68595446	
13	P(T<=t) two-tail	0.053518709	
14	t Critical two-tail	2.024394164	
15			

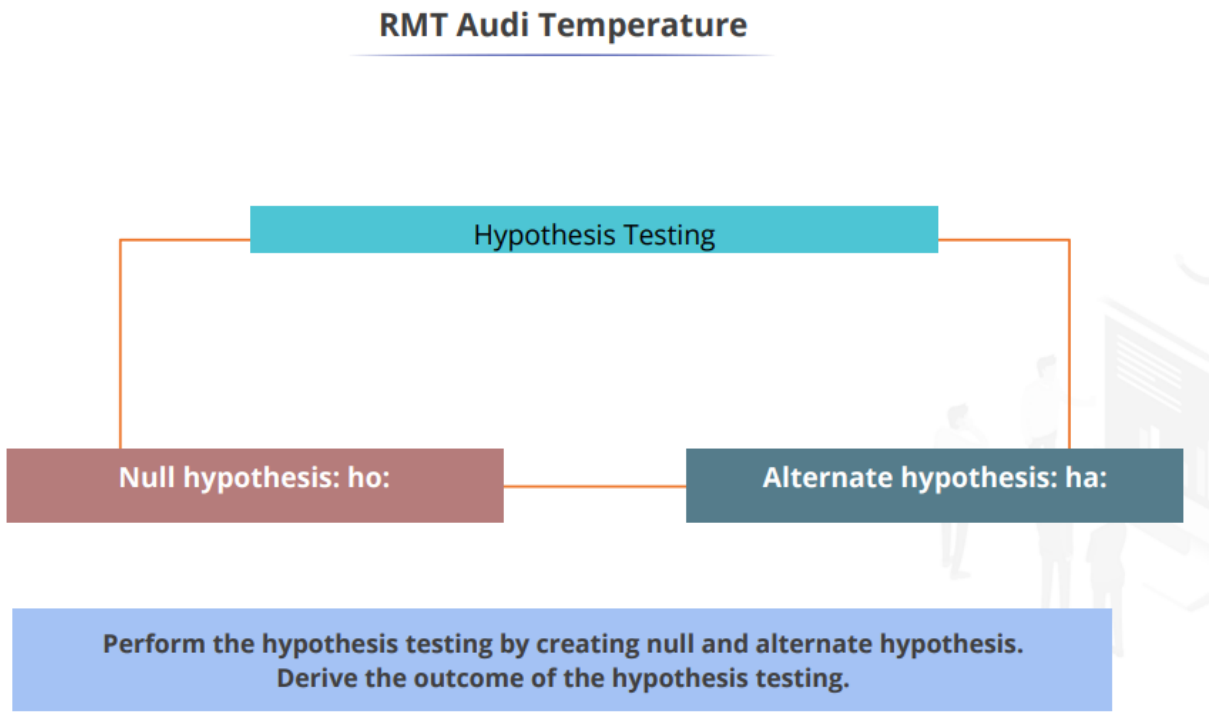
Hypothesis testing:

P(T≤t) two tail = 0.0053519

The P value is greater than 0.05 therefore the difference between the means is not statistically significant. We therefore cannot reject the null hypothesis. We can conclude the observed difference may be due to the common cause variation.

Outcome: Accept the null hypothesis

Null hypothesis (Ho): The Audi sample temperatures are similar to the optimal target temperature.



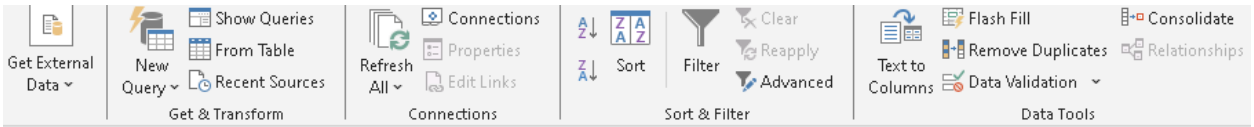
Null Hypothesis (Ho): The Audi recliners are reclining as per the target.

Alternate Hypothesis (Ha): The Audi recliners are not reclining as per the target

4.2 RMT Audi Recliner Tilt Goodness Analysis Hypothesis Testing

RMT Audi Recliner Tilt Goodness Analysis

Recliner Seats' Maximum Tilt In Degrees After Maintenance	Recliner Seats' Maximum Target Tilt In Degrees
128	130
129	130
128	130
130	130
130	130
128	130
132	130
133	130
127	130
128	130
130	130
131	130
127	130
128	130
128	130
132	130
127	130
130	130
129	130
131	130



C17

	A	B	C
1	t-Test: Two-Sample Assuming Equal Variances		
2			
3		*Recliner Seats' Maximum Tilt In Degrees After Maintenance*	*Recliner Seats' Maximum Target Tilt In Degrees*
4	Mean	129.3	130
5	Variance	3.273684211	0
6	Observations	20	20
7	Pooled Variance	1.636842105	
8	Hypothesized Mean Difference	0	
9	df	38	
10	t Stat	-1.73019338	
11	P(T<=t) one-tail	0.045855501	
12	t Critical one-tail	1.68595446	
13	P(T<=t) two-tail	0.091711002	
14	t Critical two-tail	2.024394164	
15			
16			

Hypothesis testing:

P(T≤t) two tail = 0.0053519

The P value is greater than 0.05 therefore the difference between the means is not statistically significant. We therefore cannot eject the null hypothesis. We can conclude the observed difference may be due to the common cause variation.

Outcome: Accept the null hypothesis

Null Hypothesis (Ho): The Audi recliners are reclining as per the target

4.3 RMT Audi Temperature PRE and Post Improvement

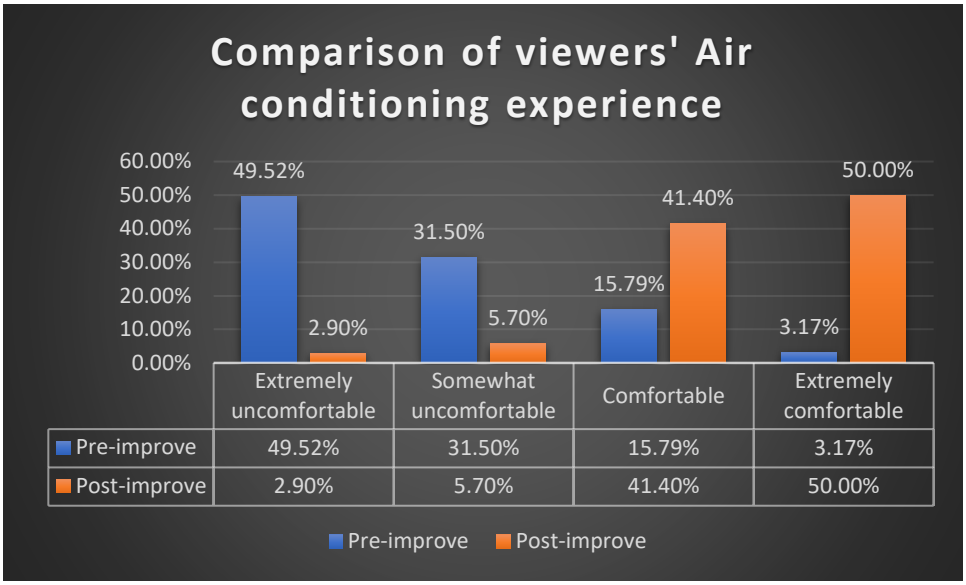
RMT Audi Temperature: Viewer Experience

Response frequencies toward AC			
Extremely uncomfortable	**Somewhat uncomfortable**	**Comfortable**	**Extremely comfortable**
2	4	29	35

Responses	Pre-improve
Extremely uncomfortable	49.52%
Somewhat uncomfortable	31.50%
Comfortable	15.79%
Extremely comfortable	3.17%

Analyze the pilot data graphically and Infer how the pilot run improved the viewer's experience.

Responses	Pre-improve	Post-improve
Extremely uncomfortable	49.52%	2.90%
Somewhat uncomfortable	31.50%	5.70%
Comfortable	15.79%	41.40%
Extremely comfortable	3.17%	50.00%



Graph 11: Air Conditioning after pilot test

Observation:

- **Based on the measure taken to improve the viewers' experience and upon hypothesis testing we can conclude that there is a good improvement in the viewers' experience.**
- **50% of the customers are extremely comfortable post improvements.**

4.4 RMT Viewers' Theatre Experience

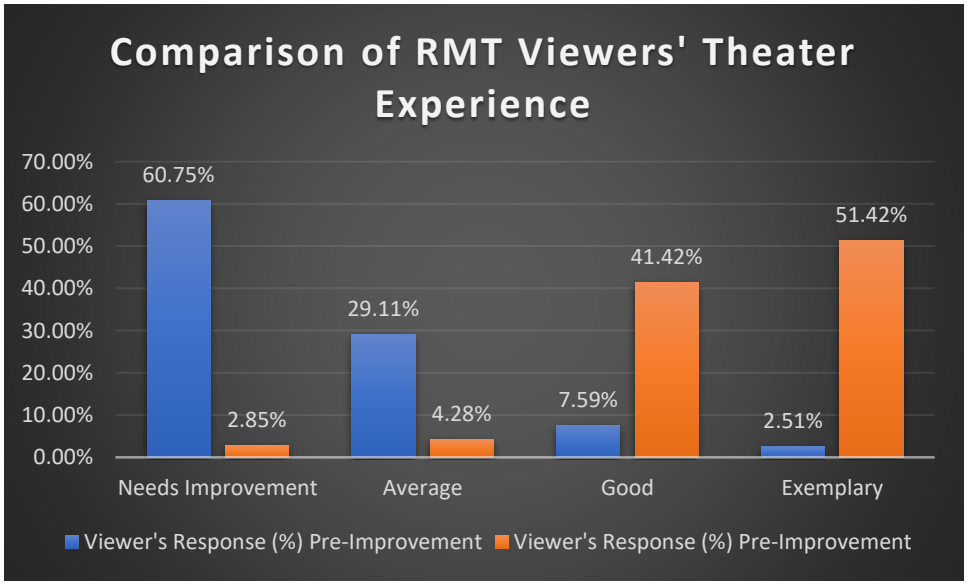
RMT Viewers' Theater Experience

Viewers' Theater Experience Responses In Pilot Phase			
Needs Improvement	Average	Good	Exemplary
2	3	29	36

Responses	Needs Improvement	Average	Good	Exemplary
Viewer's Response (%) Pre-Improvement	60.75%	29.11%	7.59%	2.51%

Analyze the pilot data graphically and Infer the viewer's response.

Responses	Viewer's Response (%) Pre-Improvement	Viewer's Response (%) Pre-Improvement
Needs Improvement	60.75%	2.85%
Average	29.11%	4.28%
Good	7.59%	41.42%
Exemplary	2.51%	51.42%



Graph 12: Theatre experience after pilot test

Observation:

Based on the measure taken to improve the viewers' experience and upon hypothesis testing we can conclude that there is a good improvement in the viewers' experience.

51% of the customers are extremely comfortable post improvements.

5 CONTROL PHASE:

Implementation at Large

BMR and RSVO auditorium maintenance

	Audi and recliner repair/maintenance		Air conditioning repair/maintenance	
BMR	Audi 1	Week 1	Audi 1	Week 3
	Audi 2	Week 2	Audi 2	Week 4
RSVO	Audi 1	Week 1	Audi 1	Week 3
	Audi 2	Week 2	Audi 2	Week 4
	Audi 3	Week 3	Audi 3	Week 5

Implementation at Large

BMR and RSVO lobby and toilet maintenance and staff recruitment and training

	Facilities		Recruitment and training	
BMR	Lobby	Week 1	Recruitment and training	Phase 1
	Toilets	Week 2	Recruitment and training	Phase 2
RSVO	Lobby	Week 1	Recruitment and training	Phase 1
	Toilets	Week 2	Recruitment and training	Phase 2

5.1 Inferences:

- **Based on the VOC we have identified the issues with the RMT theatres at both locations.**
- **VOC of different categories were collected based on different areas to understand the problems better and to identify the areas for opportunities.**
- **A series of measures such as a SIPOC was done to understand the process. Fishbone diagram to identify the issues (cause and effect analysis).c Cause and Effect matrix to identify the main causes of the issues and their impact on business have been taken to identify the core reasons for customer dissatisfaction.**
- **Basis which it was observed, the majority of the issues were due to Hygiene and Maintenance.**

- **A suitable resolution was used to resolve the problems identified.**
- **Upon Hypothesis test conducted on recline tilt and AC temperature, it was observed that there was a major response of improvement in customer satisfaction and Experience.**

5.2 Conclusion:

- **The importance of Improving Rexon Movie theatre experience to attract more audience.**
- **Analyzed the data to decrease variation in a procedure for specific tasks.**
- **RMT cinema experience and the RMT cinema hygiene are improved.**
- **Worked on and brought improvement on RMT cinema experience and RMT cinema hygiene which will enhance viewer experience and help to retain the existing viewer base and increase the new viewers increasing overall profitability for RMT for both BMR and RSVO.**
- **Due to the sizeable scope, even a typically minor improvement in the sigma estimation of the method may significantly lower the perceived imperfection value, boost customer loyalty, and supply financial benefits to the main concern.**
- **It is possible to achieve fundamental improvements in expenses by cutting unnecessary activities. Also, by focusing on cutting waste, deciding the actual value of exercises, and using the DMAIC framework of Lean Six Sigma for critical thinking.**
- **Except for a few other analytical tools, this study has only used a limited amount of the Lean Six Sigma toolkit's resources.**