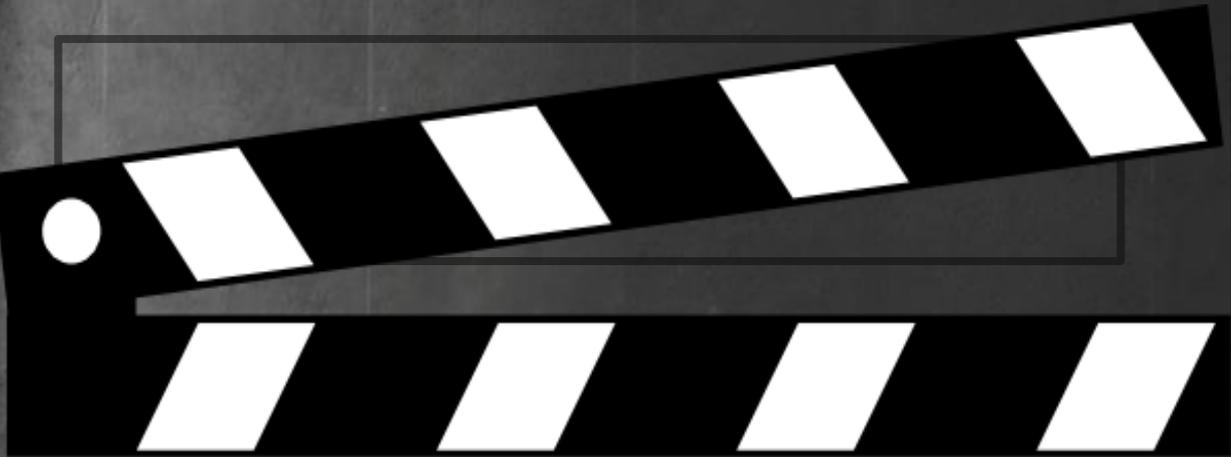


Sincere thanks to our movie production team & various sources including few websites for providing some valuable information



**AGILIA**

CONFERENCE | 27.-31.3.2017



# Agile & Lean Movie Making

Smoothen Production Execution  
Maximize Return-on-Investment  
& Save Cost



**AGILIA**

CONFERENCE | 27.-31.3.2017

## About Utpal



**Utpal Chakraborty**



**Utpal Chakraborty is a IT Delivery Manager in a Chemical R&D Co. He is also Creative Director of three Parallel Bollywood Movies.**

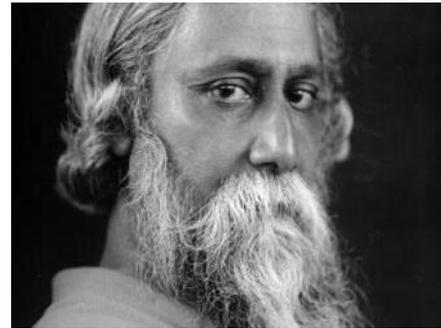
## Creativity despite Poverty



North-Eastern Part of India



Satyajit Roy  
(OSCAR in 1992)



Rabindranath Tagore  
(NOBEL in Literature in 1913)

I was born in a region (North-Eastern Part) where creativity blooms despite poverty and political instability

Always Inspires Me from Inside



Cinema Music & Dance



Folk Music & Dance



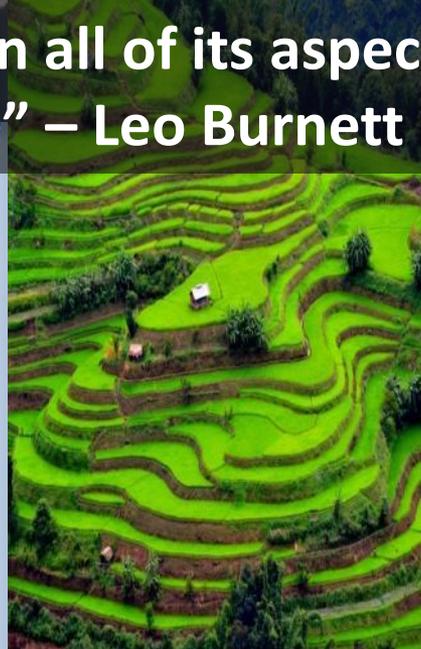
Cinema Lover

**Was a Student of Science** but always inclined towards **Arts, Culture and Cinema**

“Every child is an artist, the problem is staying an artist when you grow up” – Pablo Picasso



“Curiosity about life in all of its aspects is the secret of great creative people” – Leo Burnett



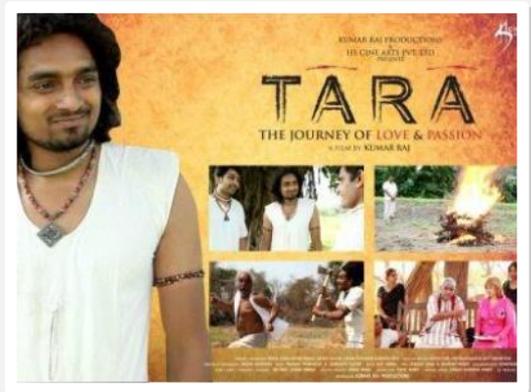
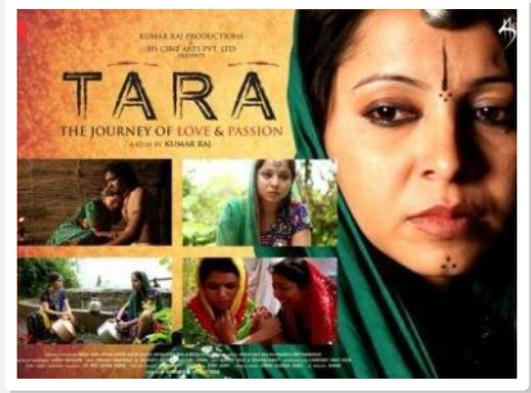
To enrich my creativity I started visiting different **Places** from **Mountain to Seashore** from **Forest to Desert**, met different **People**

I made couple of small attempts BUT miserably failed at Box-office

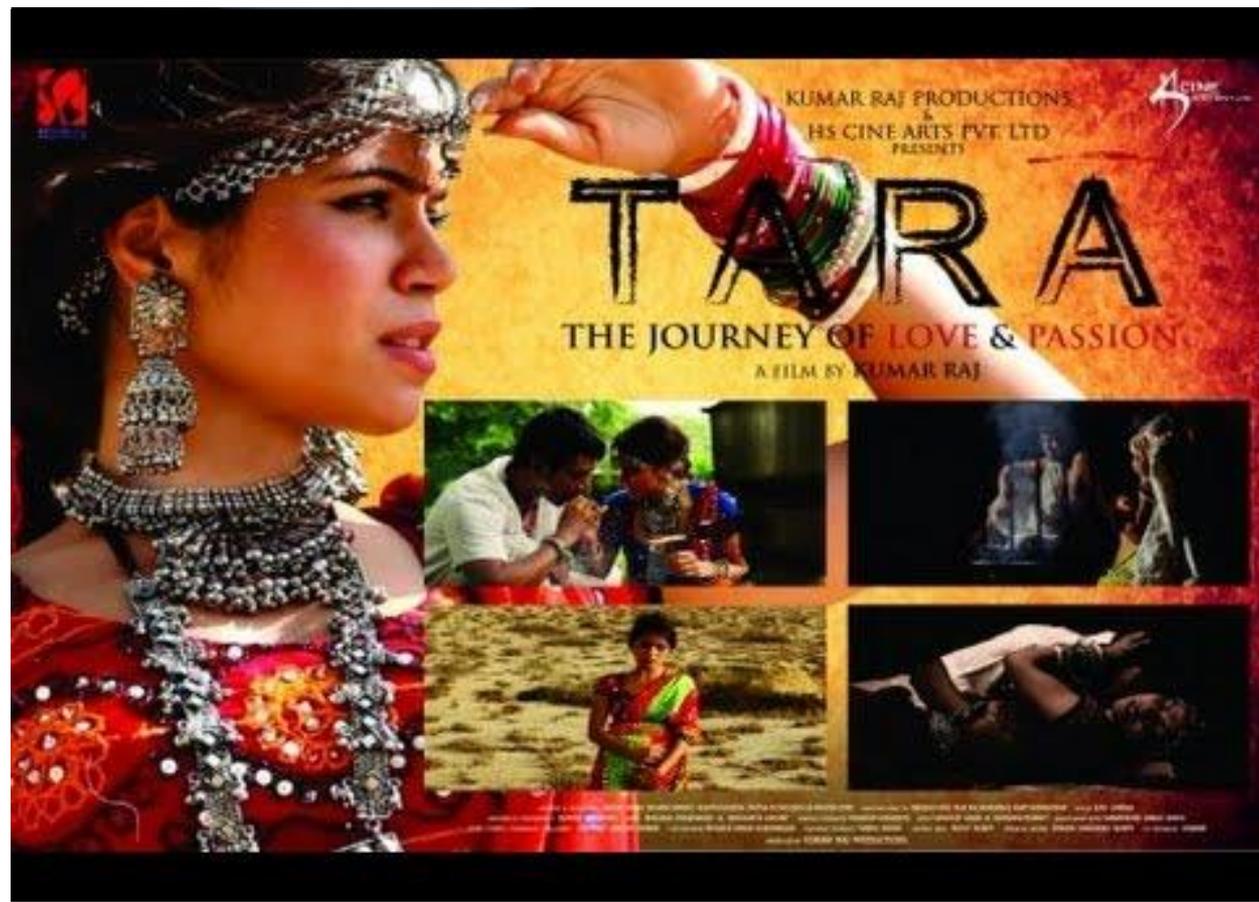


We started playing **Blame Game** on each other and **Blaming Luck**

# Our First Big Attempt : Movie "TARA" , We put all our Money & Energy



# Our First Big Attempt : Awarded a lot but Box-Office results were not good



**My Debut Movie** “Tara-The Journey of Love & Passion” as a Creative Director.

## Struggle Period



Depressed



Financially Crashed



Self-Confidence Zero

All the Doors were simply **“Closed”** for me..

# How movie making can be profitable & predictable ?

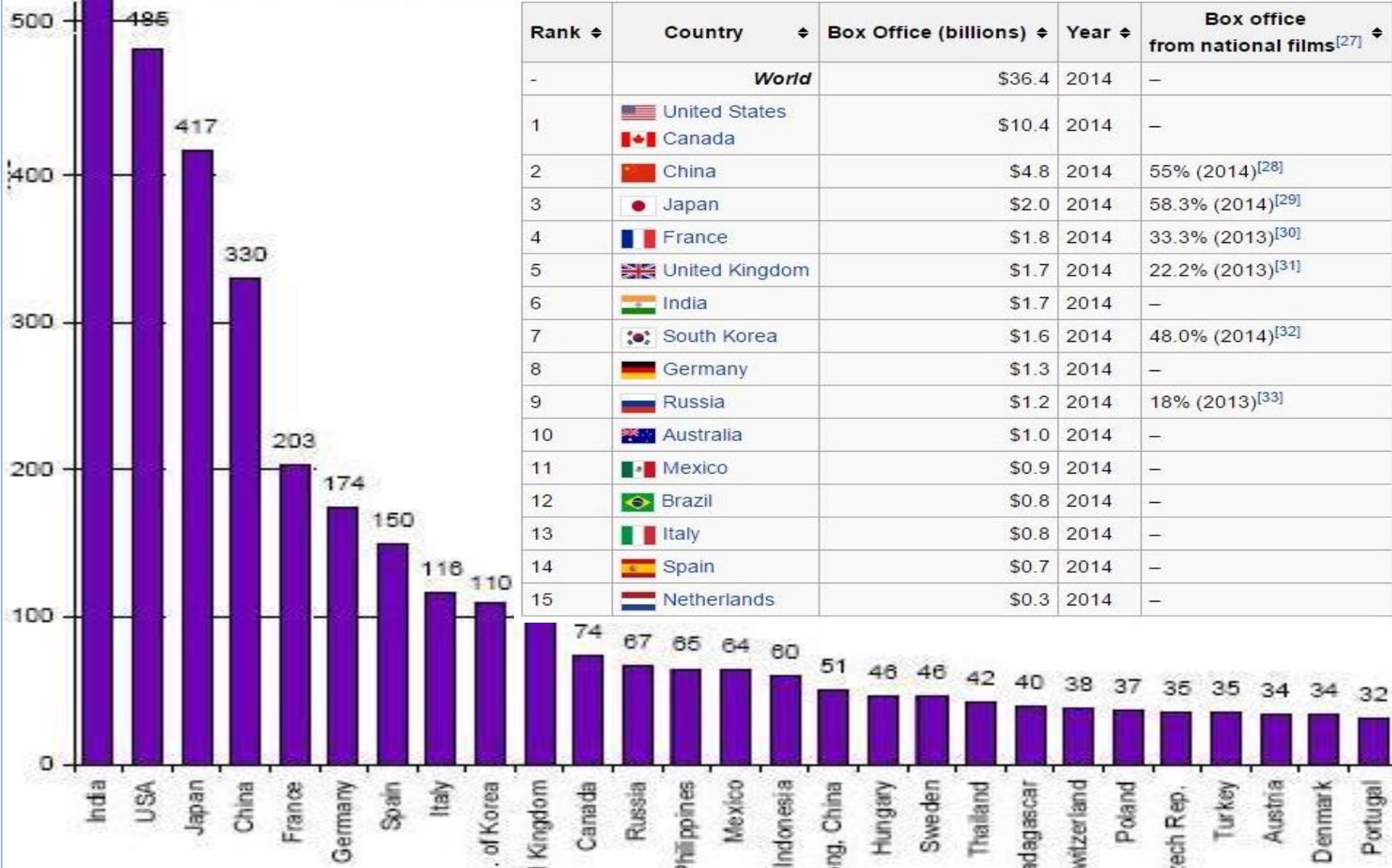


**Our entire team was completely depressed...**

We started **Analyzing the Reason** for our failure in terms of **ROI**

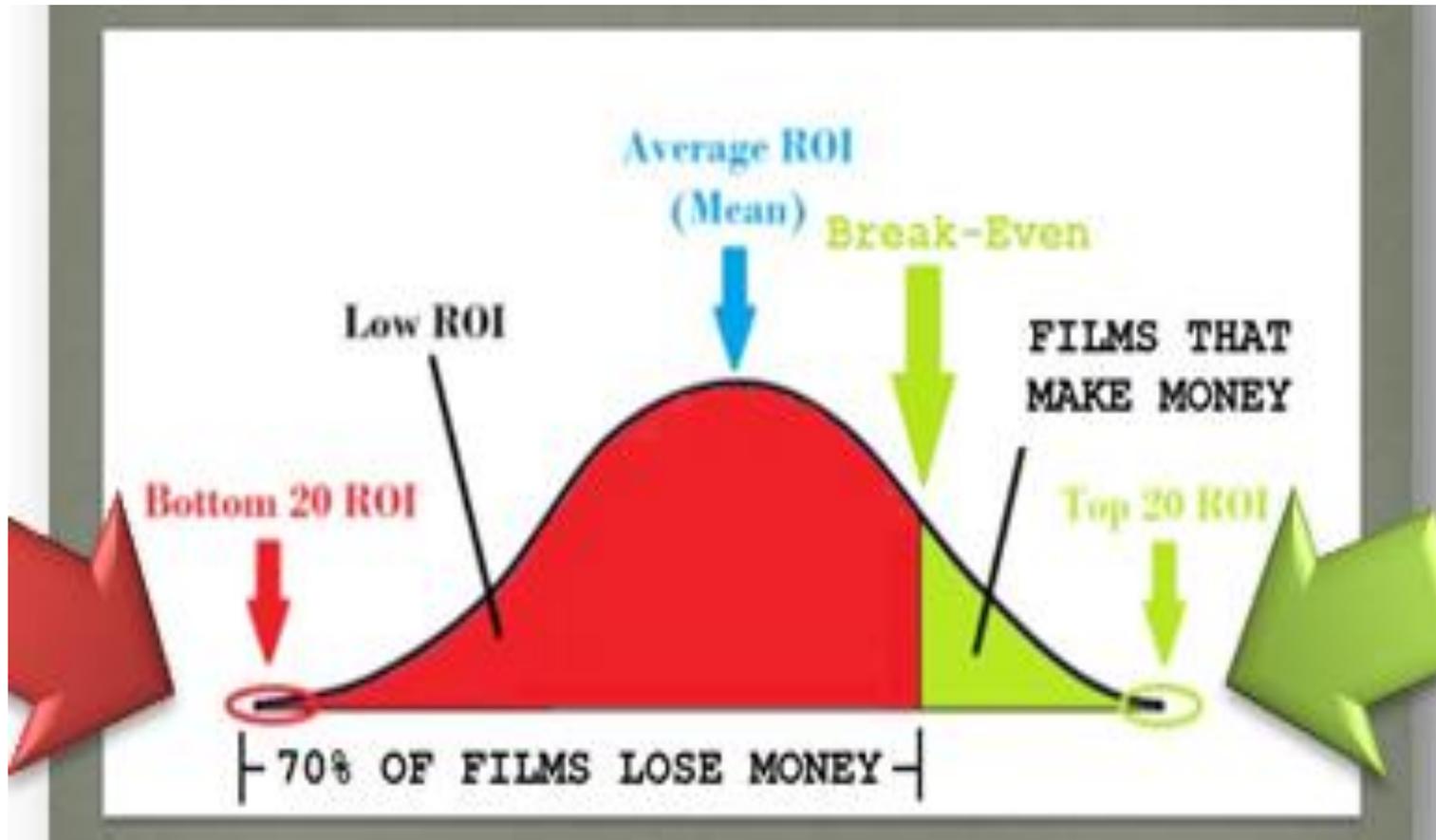
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# Global Box Office Statistics 2013-14



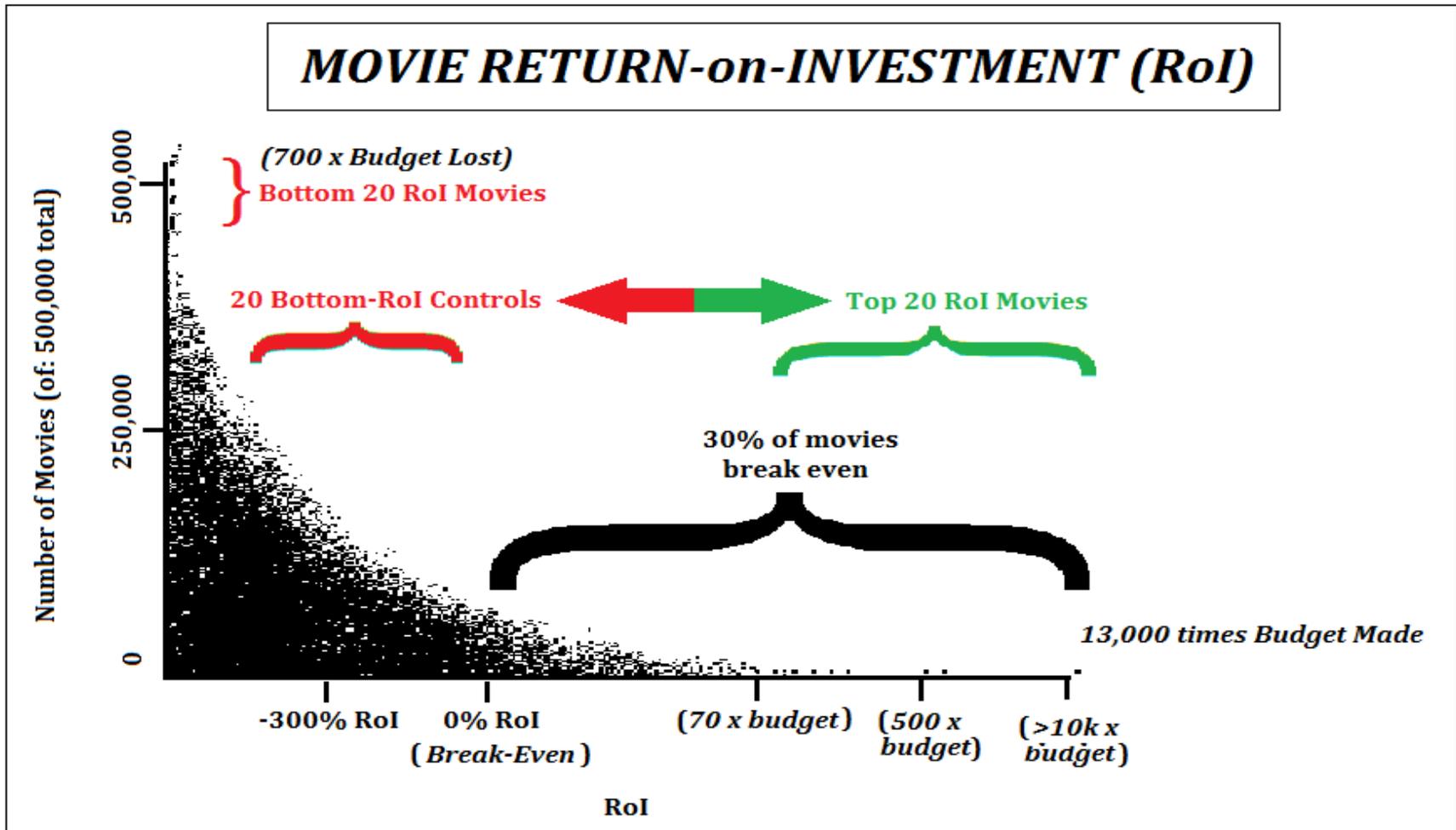
**Global box office revenue is close to \$40 billion**

# Movie Return-on-Investment Curve



**Approximately 70% of the movies lose money.** So, saving cost at every stage of movie making as well as a systematic production execution approach is crucial to get the maximum ROI.

# Return-on-Investment for Movies Worldwide



**Hardly 15%** of the Movies get a good ROI

# Why most of the movies do not get a good Return-on-Investment ?

**TOTAL BOC =  $b_0$  +  
 $b_1$ PUBLIC +  
 $b_2$ POOR\_PROD +  
 $b_3$ OVER\_PROD\_COST  
 $b_3$ STAR\_POWER +  
 $b_4$ DIRECTOR\_POWER  
+  $b_5$ SEASON +  
 $b_6$ SCREENS +  
 $b_7$ DISTRIBUTION\_PO  
WER +  $b_8$ REVIEW +  $b_9$   
FIRST\_WEEK +  $\epsilon$**

**Poor Production Execution**

**Over Production Cost**

Poor Publicity / Promotion

Poor Star Cast

Less Reputed Production Brand

Creative Issue

Distribution Issue

Less Reputed Director

Wrong Release Date

Poor Critics Review

Sequel Issue

Trailer Issue

Genre Issue

All the 7 types of Wastes (Mudas) can be found here

## Production problems due to absence of proper Methodology

Bad Quality, not even up to the expectation of Director & Producer

Huge waste due to not considering “which to shoot where & when” in terms of saving cost (MoSCoW can be used here)

Wastage due to early production and over production by blocking money for long time not considering time-to-market

Wastage due to delay & wait time in different stages of moviemaking and thus blocking money unnecessarily

Wastage due to Re-Shoot, Recreate, Deviation from the budget & timeline

Huge wastage in transportation, relocation, food & other expenses due to lack of proper production execution strategy

Wastage due to over processing, over concern of things to make it more perfect, over creative issues, vision not being conceived well

We discovered that “Creative Issue” can’t be blamed always for failure



# Paradigm Shift (Our Agile Movie Manifesto)

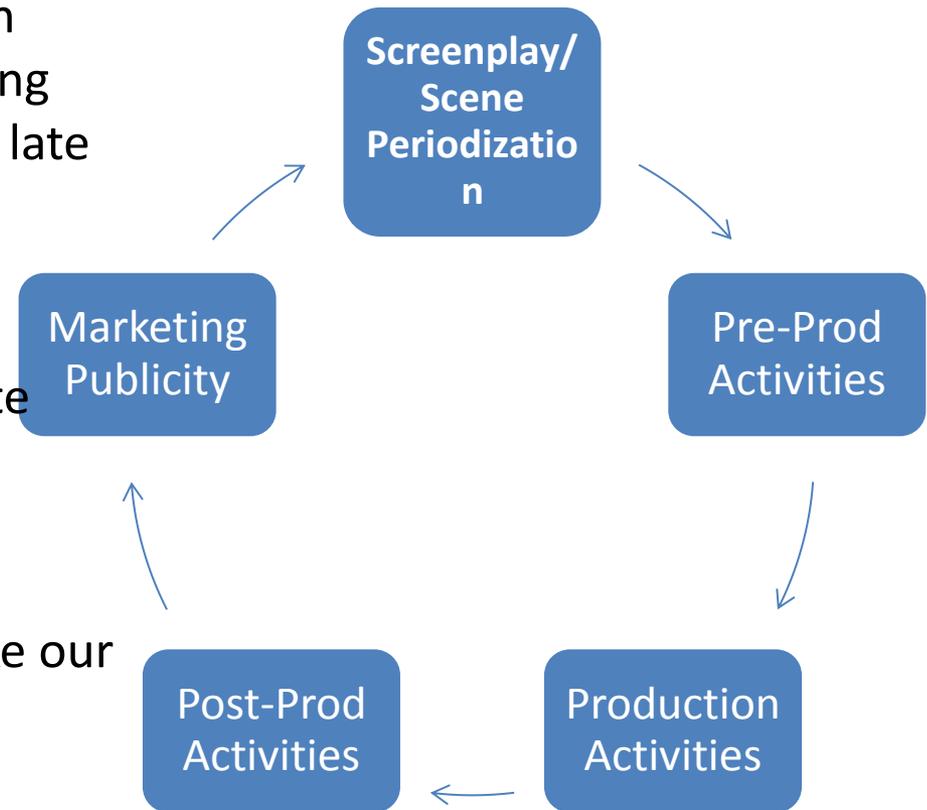
1. Our aim is to satisfy audience through timely delivery of engaging & entertaining movies. And we welcome changes even late in development.

2. Our team (Cast & Crew) sharing responsibility for delivering the complete movie as per writer/director's vision.

3. Experimenting, prototyping, shared learning & using effective tools will make our moviemaking process faster, more predictable and cost effective.

4. Our focus will be on eliminating waste and wasteful activities in the entire value stream of moviemaking process.

5. Our continuous focus will be on technical excellence and use of advanced tools and techniques to enhance agility of our movie making process.



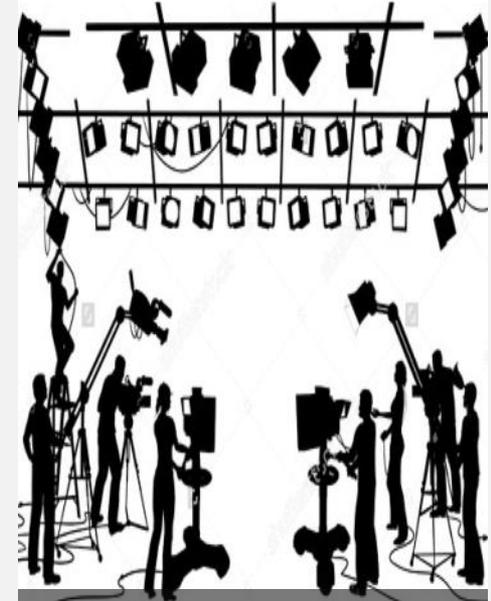
# We finalized and agreed upon different Roles & their Responsibilities



Agile Client (Audience)



Agile Scrum Master



Agile Development Team

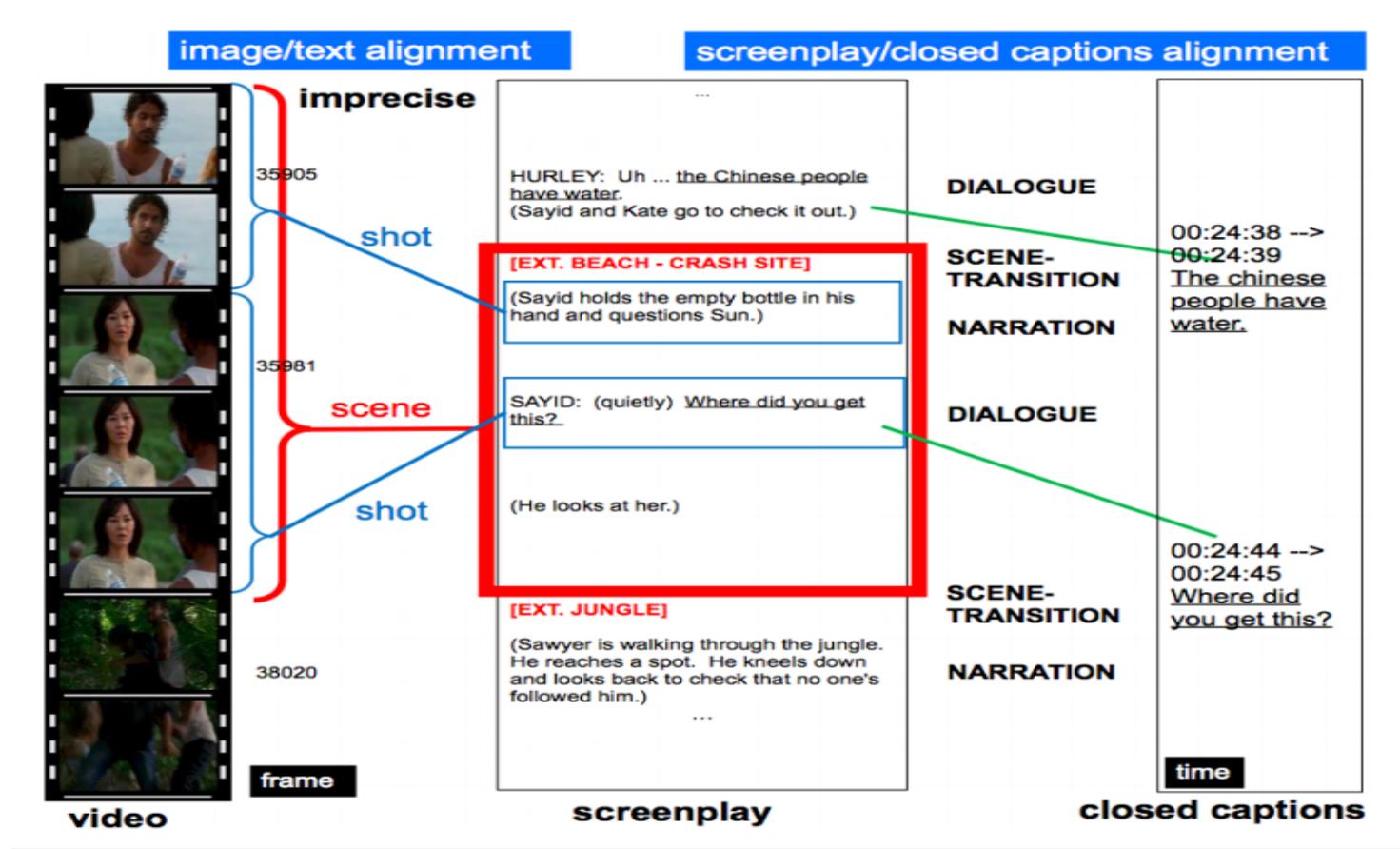


Agile Product Owner



**“A Film is made three times”** When you write it,  
When you shoot it & When you edit it.

# How we defined User Stories & Epics in our Movies ?



We decided to divide scenes to it's smallest unit.

**Each Scene is an User Story. Related Scenes comprises an Epic**

## We introduced Prototyping with Storyboard in our movie



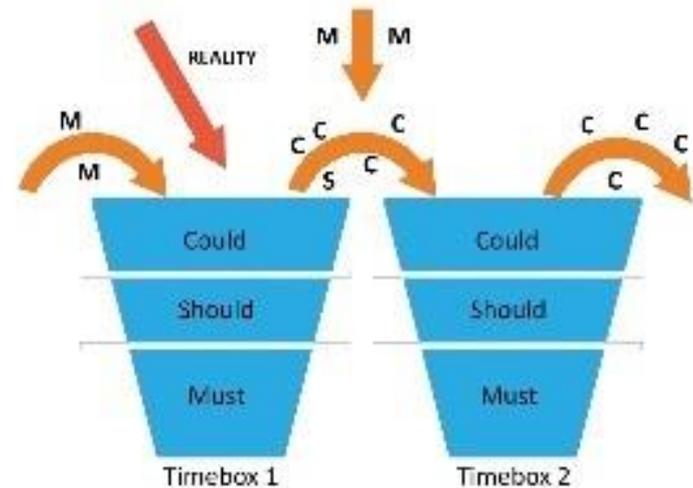
**Storyboard to be better prepared in shooting & visualization.  
Save Time, Energy, Cost still get better quality.**

# How we used MoSCoW and other techniques for scene prioritization ?

## Prioritizing Requirements — MoSCoW

There are three prioritization schemes that can be applied within Agile. The first technique is MoSCoW.

- The prioritizing technique used in Dynamic systems development method (DSDM) is MoSCoW.
- Under this technique, requirements are prioritized based on Must, Should, Could, and Won't.



**Use MoSCoW, to sequence the scenes to be developed and edited**

We prioritized scenes using “**MoSCoW**” technique to arrive at “**Which scene to shoot Where & When**”.

## Use of effective tools to collaborate with stakeholders during production



**Collaboration** and information flow at real time with all stakeholders is very essential in the entire production to achieve the set target ..

## Daily Scrum -> “Envisioning” in the Daily Shooting Schedule

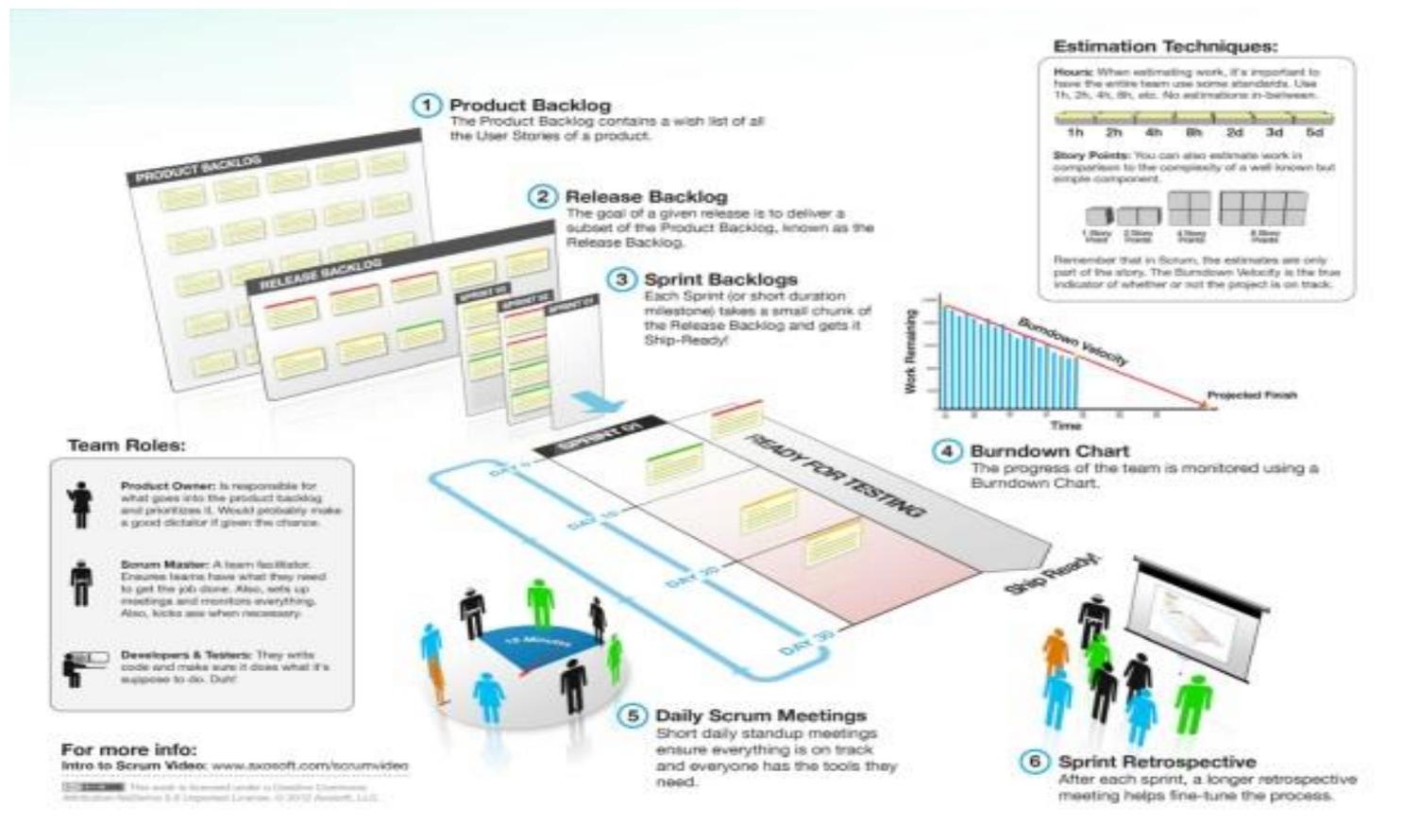


We used Animation or Brainstorming Games & Story Map during Envisioning

**Envisioning** is a process wherein the cast & crew spend one hour at the start of the day to discuss and set target for the day.

**Normally the number of related scenes to shoot and edited on-the-set for the day is decided and agreed upon by the Team.**

# We used Scrum Methodology for our Production Execution



**Shooting and Editing scene by scene** in a systematic way using Scrum Methodology gives predictability & confidence as well saves huge cost.

# Retrospectives -> We adopted an established practice, “Post-Mortem”



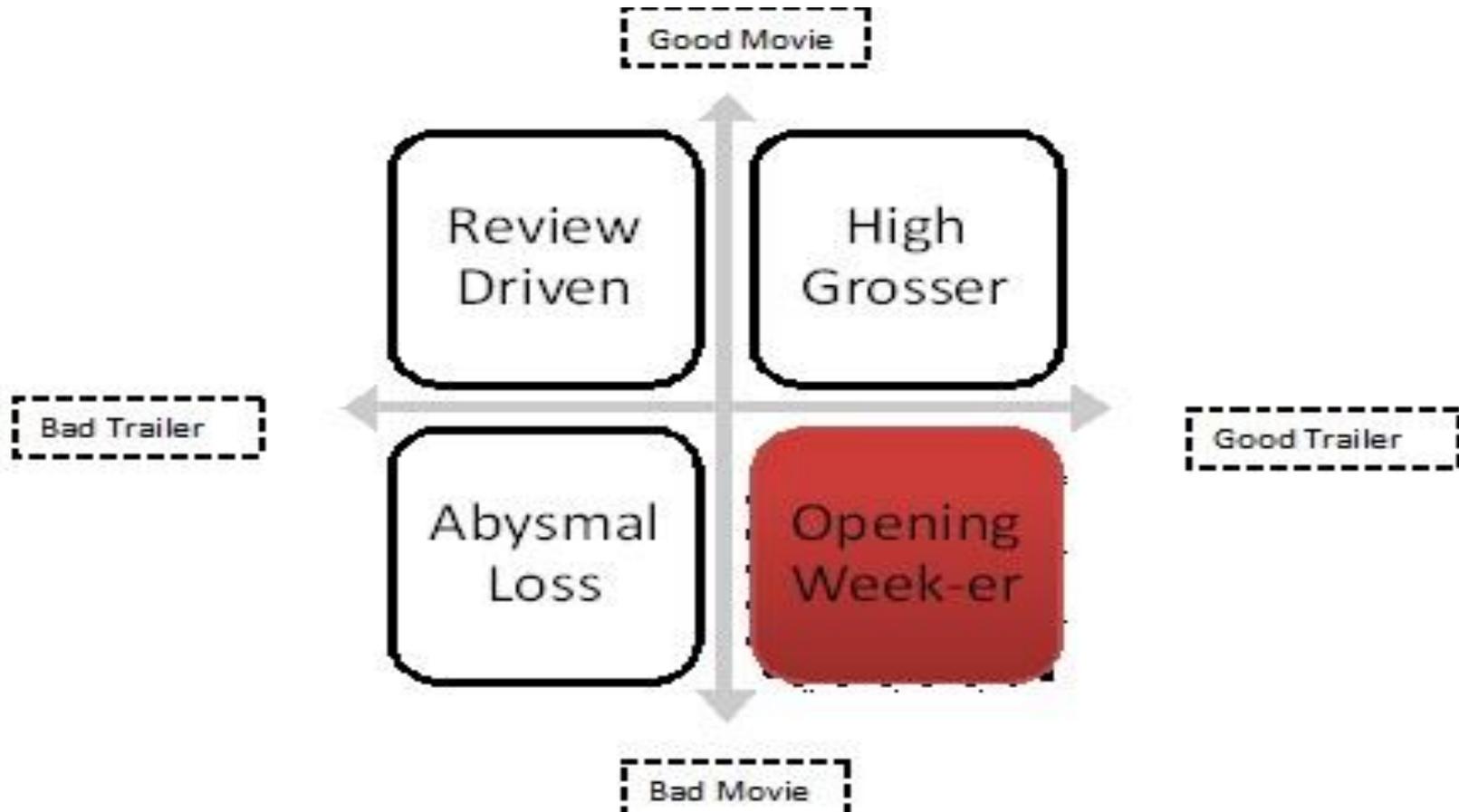
In “**Post-Mortem**” we used to ask participants to list the **top five things they’d do again** and the **top five things they wouldn’t do**.

## We adopted Incremental delivery & feedback in Agile way



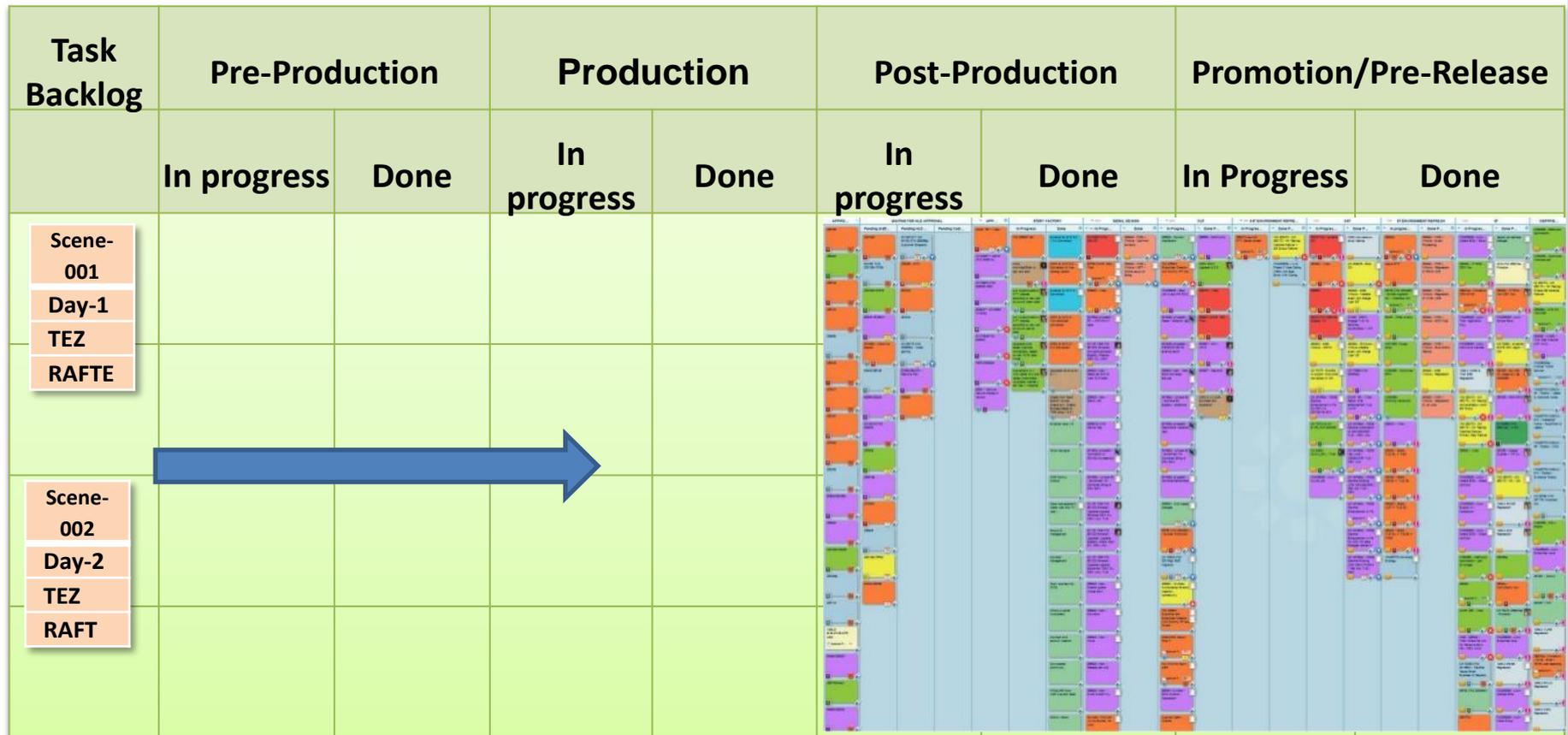
We adopted **On-The-Set Editing**, it helped us doing incremental delivery and quick feedback. What we have learned is **Experimenting**, **Prototyping using Effective Tools** makes Moviemaking process faster, more predictable and cost effective.

## Impact of Trailer & Review on Total Gross (Audience's early feedback)



**Trailer & Review** both play a major role on the Total Gross of Movies. **Executing Movies in Agile way** improves Production Cost vs Total Gross Collection.

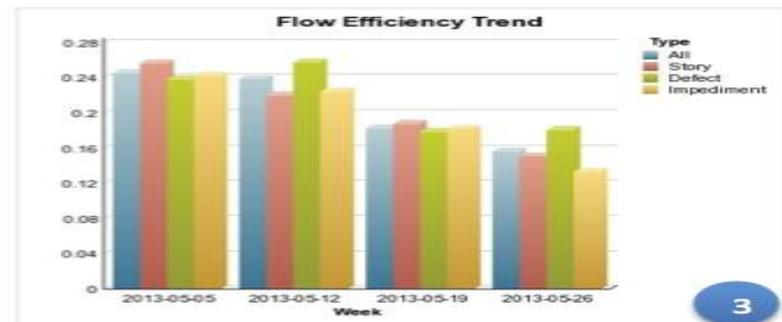
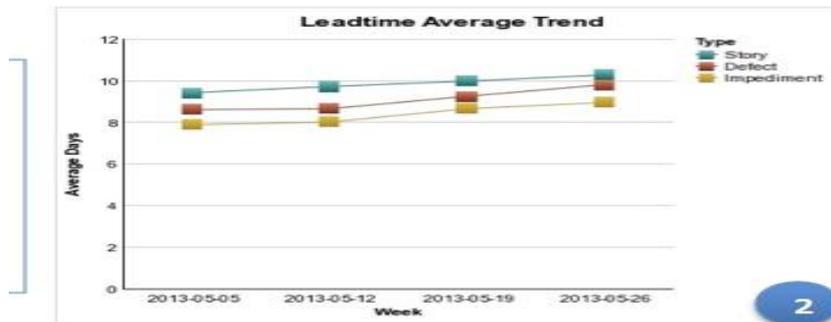
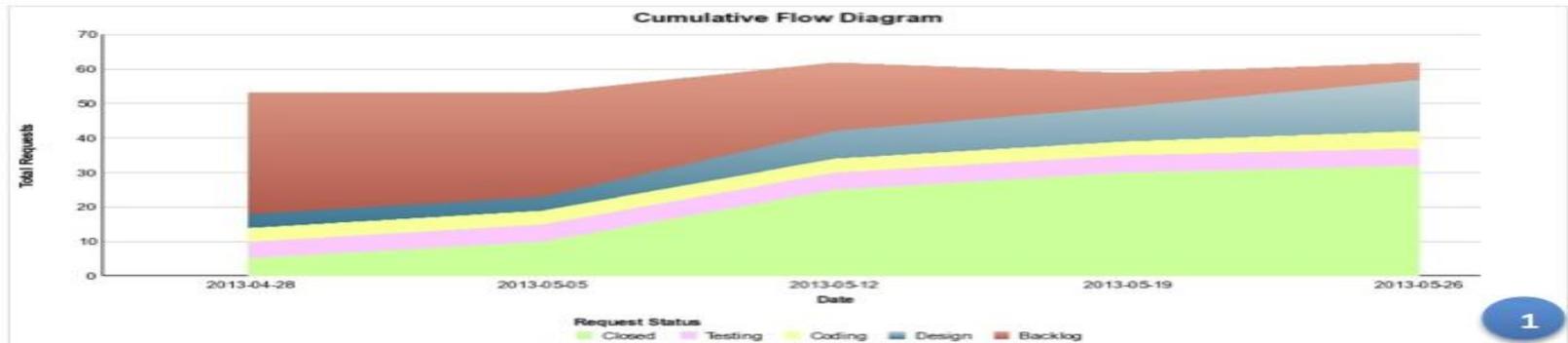
# Used Scrum Board / Kanban Board to track the progress efficiently



Use of Analytics & Metrics like **Lead and Cycle Time and Cumulative Flow Diagrams** allow to measure the performance of the movie making and help in identifying inefficiencies and bottlenecks and increases predictability.

# Metrics to see performance and take corrective action on time

Kanban Executive Dashboard



**Collecting Matrices** is very important to correctly measure the progress of the project (Movie Production) and measure its health indicators.

Use of Analytics & Metrics like **Lead and Cycle Time** and **Cumulative Flow Diagrams** allow to measure the performance of the movie making and help in **identifying inefficiencies and bottlenecks** and increases predictability.

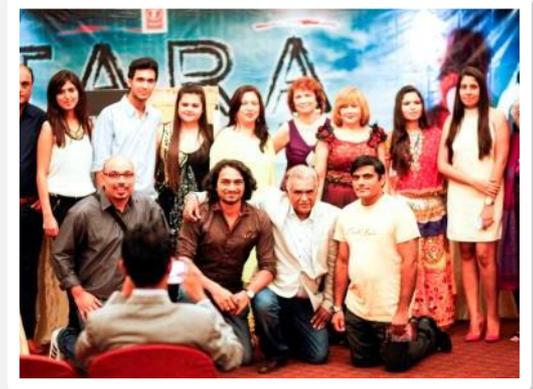
# We used “Hot Cost” in Movie Daily Production Budget Comparison

Day#	Item	Hot Cost	Est. Cost	Actual Cost	Variance									
1	Production	22.0	9.8	12.0	2.2	22.0	14.5	7.5	22.0	14.5	7.5	22.0	14.5	7.5
2	Crew	20.0	7.0	13.0	3.0	20.0	12.0	8.0	20.0	12.0	8.0	20.0	12.0	8.0
3	Camera Services	20.0	7.0	13.0	3.0	20.0	12.0	8.0	20.0	12.0	8.0	20.0	12.0	8.0
4	Production	21.4	8.4	13.0	2.6	21.4	14.0	7.4	21.4	14.0	7.4	21.4	14.0	7.4
5	Crew	21.8	7.4	14.4	4.4	21.8	13.8	8.0	21.8	13.8	8.0	21.8	13.8	8.0
6	Camera Services	20.0	7.0	13.0	3.0	20.0	12.0	8.0	20.0	12.0	8.0	20.0	12.0	8.0
7	Production	20.0	8.0	12.0	2.0	20.0	14.1	5.9	20.0	14.1	5.9	20.0	14.1	5.9
8	Crew	20.0	7.4	12.6	2.6	20.0	13.8	6.2	20.0	13.8	6.2	20.0	13.8	6.2
9	Camera Services	20.0	7.0	13.0	3.0	20.0	12.0	8.0	20.0	12.0	8.0	20.0	12.0	8.0
10	Production	20.0	8.0	12.0	2.0	20.0	14.7	5.3	20.0	14.7	5.3	20.0	14.7	5.3
11	Crew	20.0	7.4	12.6	2.6	20.0	14.0	6.0	20.0	14.0	6.0	20.0	14.0	6.0
12	Camera Services	20.0	7.0	13.0	3.0	20.0	12.0	8.0	20.0	12.0	8.0	20.0	12.0	8.0

Use **Six-Sigma LEAN** Techniques to eliminate wastes in daily Production using “**Hot Cost Sheet**”.

**Quantitative Analysis** always gives better control, predictability and corrective actions can be taken on time if something goes wrong.

# Finally “Better Products” with approximately 14% total savings

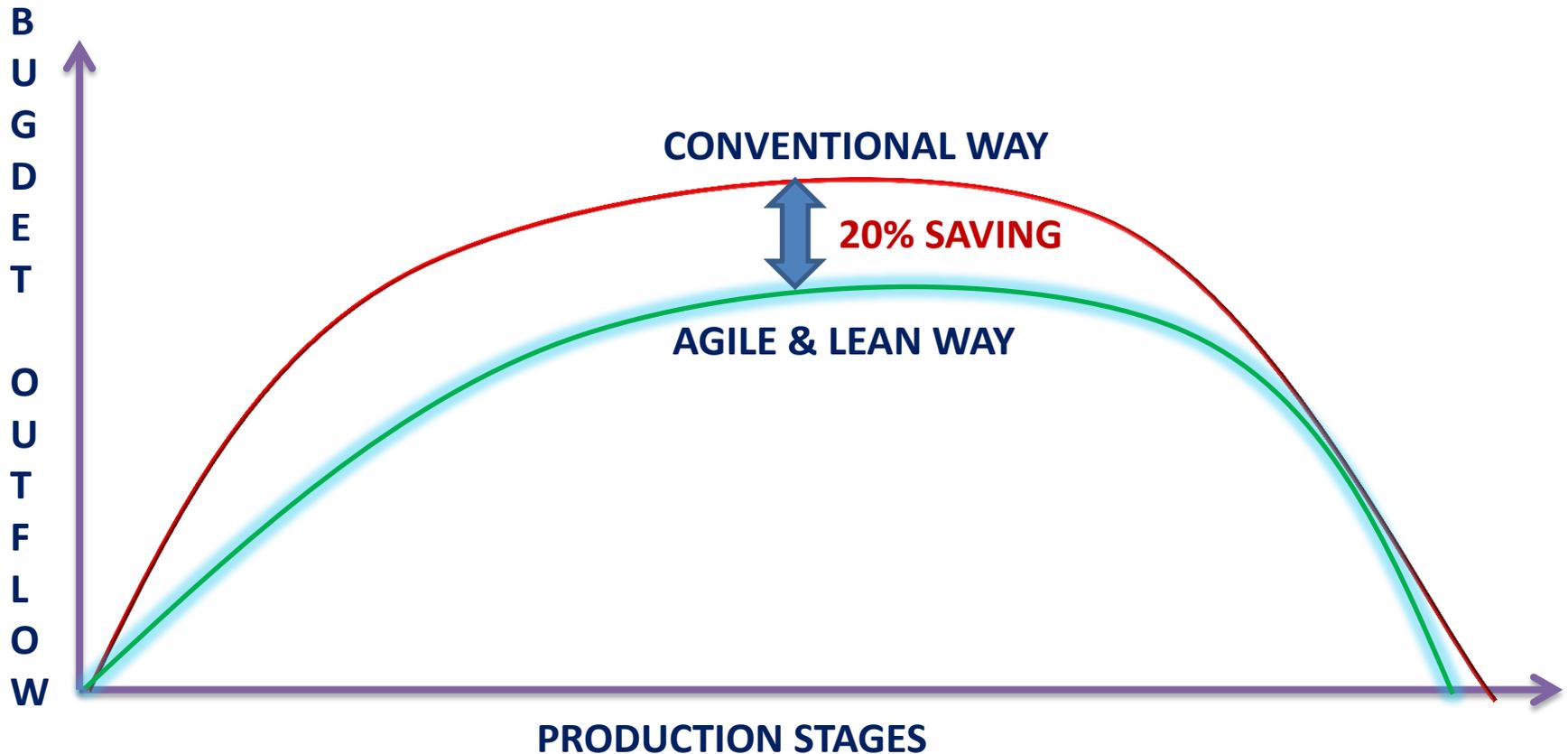


# Different areas of moviemaking where waste can be eliminated

Expense Category	Approximate Saving (%)	Expense Category	Approximate Saving (%)
STORY AND RIGHTS	Some %	VEHICLE & ANIMALS	11%
PRODUCER(S)	Some %	MAKE-UP & HAIR	15%
DIRECTOR	Some %	SET LIGHTING	22%
CAST	12%	CAMERA	22%
TRAVEL & LIVING	25%	PRODUCTION SOUND	17%
PRODUCTION STAFF	24%	TRANSPORTATION	21%
EXTRA TALENT	13%	LOCATION EXPENSES	15%
SET LOCATIONS	21%	2ND UNIT	10%
SET DESIGN	12%	TESTS	12%
SET OPERATIONS	10%	VISUAL EFFECTS	22%
SPECIAL EFFECTS	14%	EDITING	22%
SET DRESSING	15%	MUSIC	21%
PROPERTY	20%	POST PRODUCTION SOUND	20%
COSTUMES	12%	POST PRODUCTION FILM & LAB	12%
INSURANCE	7%	PUBLICITY	25%

Over all approximately **20%** saving using Agile & LEAN

## Production Budget Outflow in Conventional vs. Agile & Lean way



**Up to 20%** of the overall Budget of the movie can be saved by effective use of Agile & Lean techniques.

Use “VFX 3D Object” instead of a real Tiger, which will be costly



An advanced VFX technique called “Crowd Multiplication” is used



**Using Agile Practices** in Moviemaking can take you to your destination in a systematic way.

An advance technique called “Facial Motion Capture” is used



Dealing with **Creative Constraints** impacting Cost & Schedule of a movie. Use of advanced tools and techniques for visual reality still save cost.

**“Virtual Reality Production Techniques” are going to change the entire Cinematic Experience of Movies in coming years...**



**Agile & Lean Techniques fits perfectly even in Virtual Production**

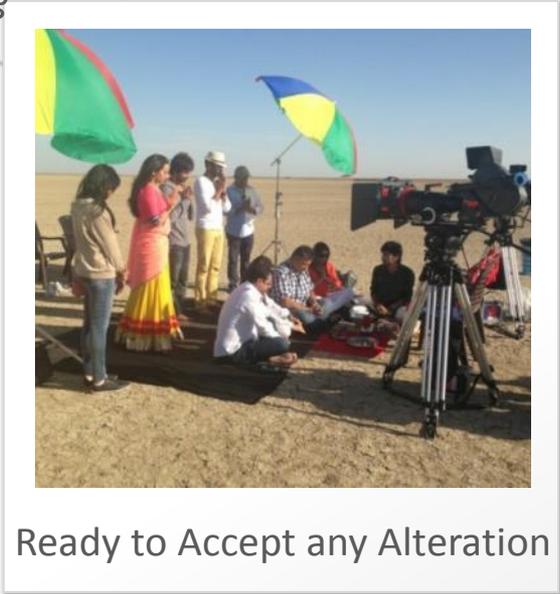
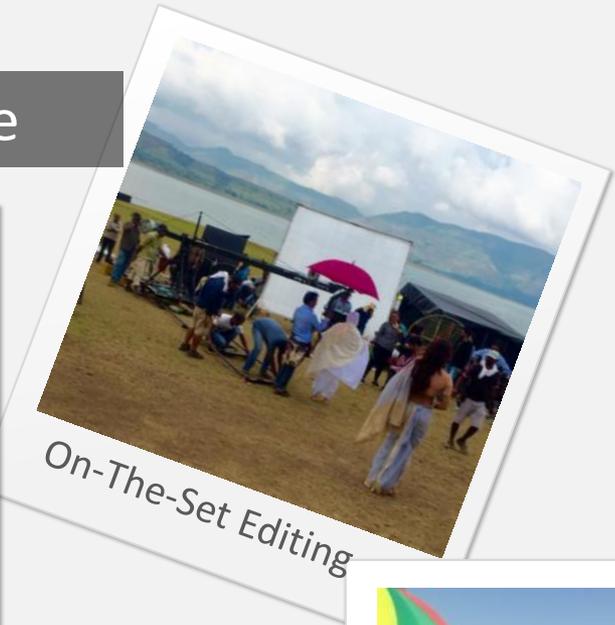
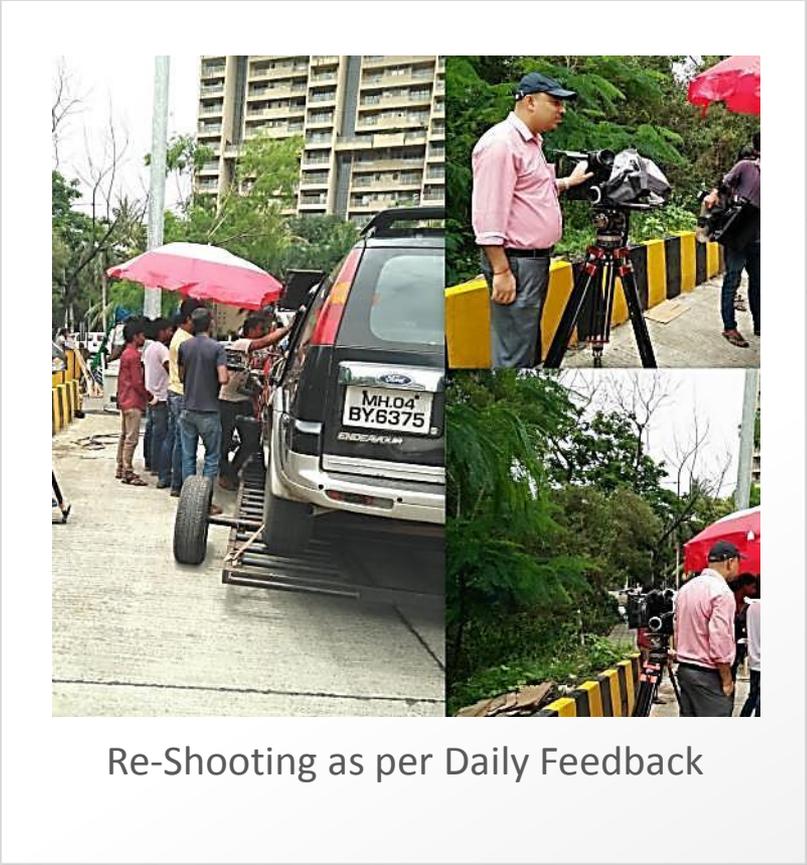
# Agile & Lean in Entertainment Industry

TV Serials, TV Shows, TV Reality Shows, Short Movies, Music Videos, Documentary Movies, Web Series, YouTube Series etc..

Walt Disney's "The Jungle Book" Budget is 175 million USD. At least **10%**, that is around **17 million** could have been saved if Agile & Lean would have been implemented.

The movie was made in approximately **18 months** which could have been completed in approximately **10 to 11 months** by implementing Agile & Lean frameworks. Time to market could have been faster.

# Current Movie is a children's movie



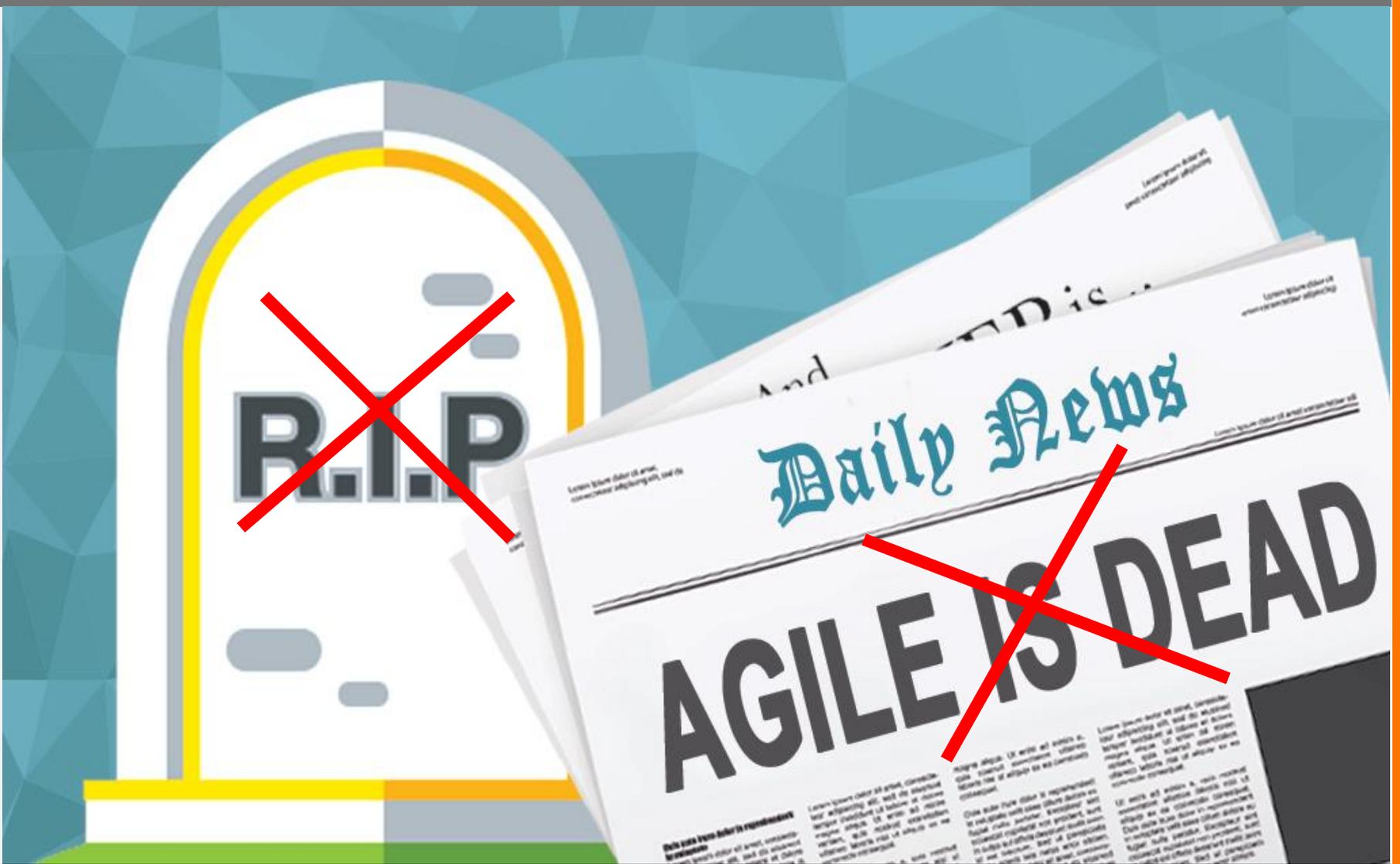
Agile Framework on Virtual Reality Environment...  
Expecting a **Better & Predictable** product

# What could have been the Consequences if NOT Agile & Lean implemented in our next movies??

1. “A **bit** better production execution” which comes from experience BUT **still huge gaps and uncertainties.**
2. “Some amount of cost cutting in a crud way” which could have **compromised quality of the movie.**
3. Get an opportunity to watch & validate the movie “only at the last stage” (Post-Production). So, **no scope to make any changes at that stage.**
4. Huge **wastages** in the entire production execution process which would have been **unrecoverable.**

**90% Possibility of a Huge Financial Loss Again..**

# Answer to my friends who claims “Agile is Dead” ...



## What I Learned from my Journey ??

1. Do NOT **associate or trademark or limit Agile & Lean** with any specific industry.
2. It's **Versatile**. It's a **Methodology of Working** which can be applied in any industry, any business and **in any work**.
3. More you practice **Agile & Lean** more you mature and invent. There is **No End to it**.
4. Many a times we do many things **unknowingly in Agile & Lean way** and we get fantastic results. Wow !!

Thanks a lot !



QUESTIONS ?



## **Few More Practices Could have been Implemented**

**Further fine-tune the entire Value Stream of our production execution using Six-Sigma Lean principles to eliminate wastes.**

**Techniques like parallel Day & Night shooting of independent scenes to save time & cost (Crashing Schedule).**

**Deal with Creative Constraints impacting Cost & Schedule of a movie by use of advanced tools & techniques for visual reality.**

**A complete & comprehensive Risk Identification and Mitigation Plan to deal with various risks involved in movie making.**

**Workshop before shooting and creating Demo Movies (Subset of the actual Movie) from time to time for better quality.**