# Kriti ElectroVate
## Da Vinci Cup



**Team Umiam**

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# Le Air Braille



## Problem statement

- Statement ID: E101
- Statement:Design a prototype of a device that can help to assist disabled peoplein fields as diverse as education,the home,leisure,transport and work.

## Problem Description

- We aimed to resolve the problem of inexistence of affordable Braille script writers.
- Thus,we made a prototype of a portable electronic braille script typing interface named **"Eazy Type".**

You can do it !

## Help Visually challenged
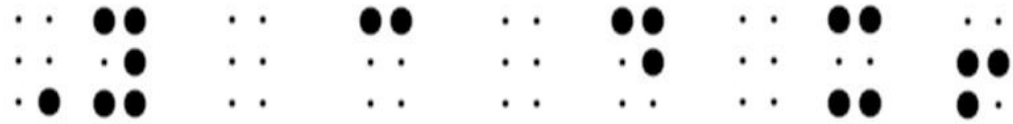
- Improve their daily life quality.
- To boost educational prospects.
- Making them aware of the growing technology.
- Provide assistance in other diverse fields of life.
- To make them self-reliant.

## Motivation

A disability isolates a person from its other normal peers.So,we thought that use of modern technology can help them overcome the barrier of social disparity.Moreover,reading and writing is a powerful weapon to express one's emotions,so we chose to develop a prototype of a device that types in a script specially designed for the **Braille**
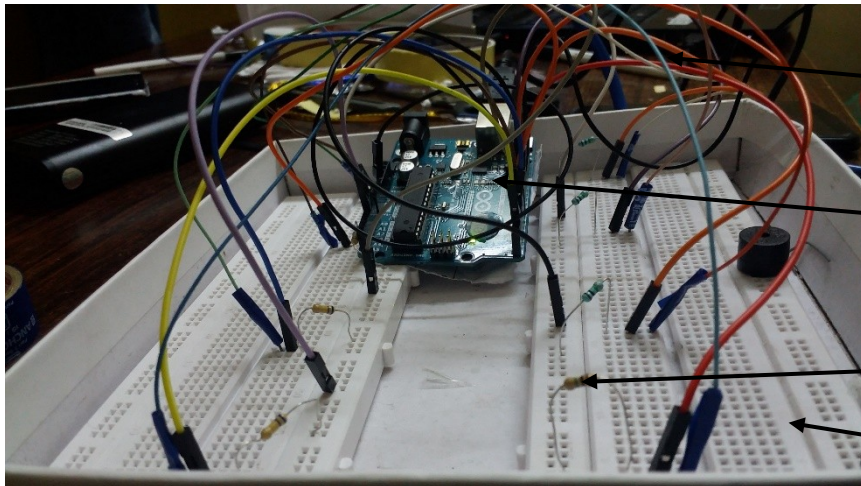
## General Description

- Prototype is basically a typing device that produces output in Braille script.
- It takes input by touch on capacitor sensor.
- Micro-controller used in this device is Arduino ATmega328P.
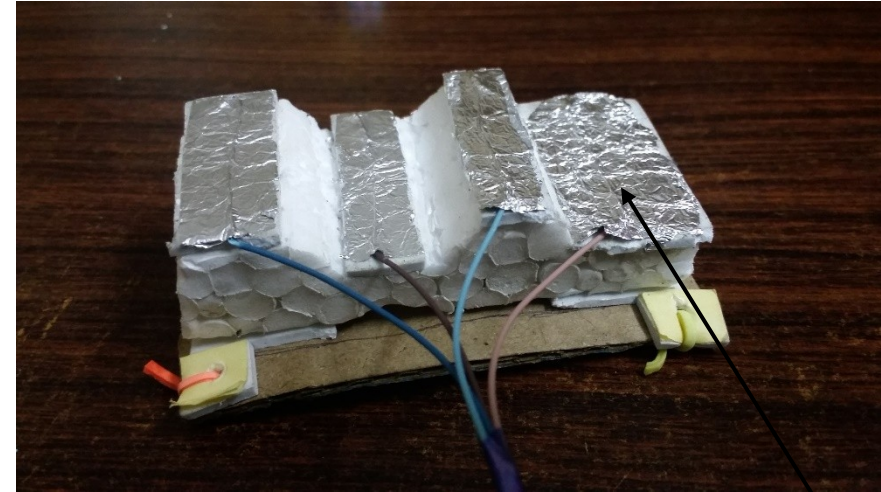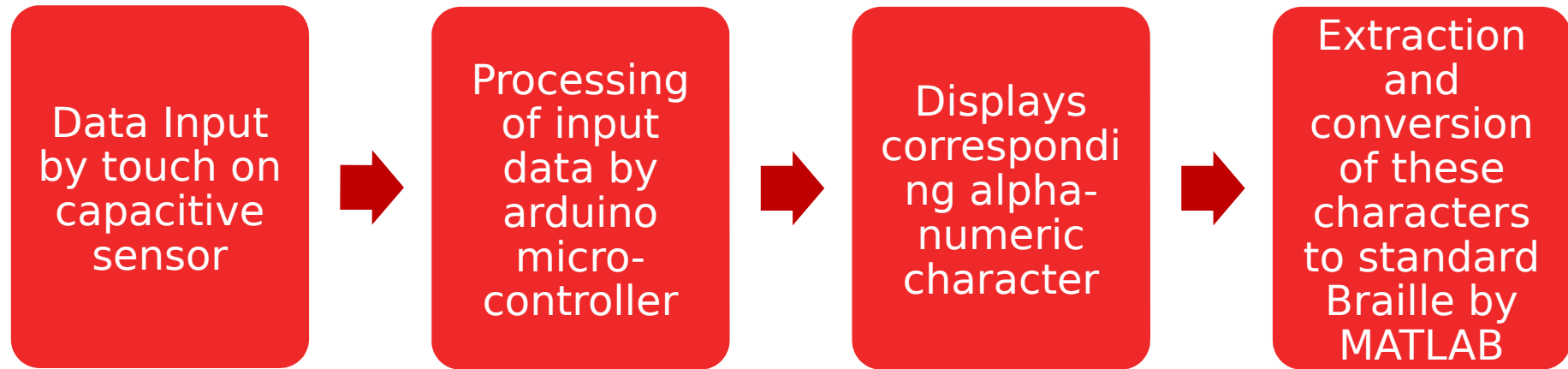


Capacitive Sensor



Connecting wires
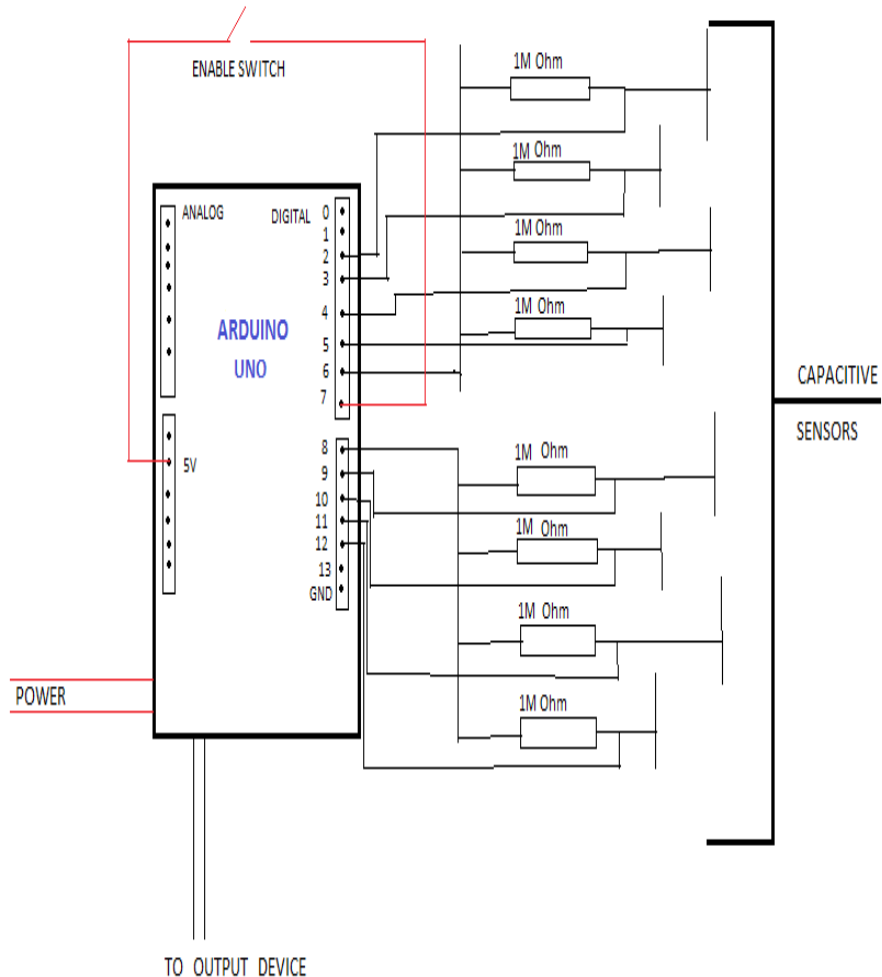
Arduino

Resistors

Breadboard

# Working Principles of Eazy Type

Data Input by touch on capacitive sensor

→

Processing of input data by arduino micro-controller

→

Displays correspondi ng alpha-numeric character

→

Extraction and conversion of these characters to standard Braille by MATLAB

## CIRCUIT DIAGRAM



ENABLE SWITCH

1M Ohm
1M Ohm
1M Ohm
1M Ohm

ANALOG DIGITAL 0
1
2
3
4
ARDUINO 5
UNO 6
7

CAPACITIVE

SENSORS

8
9
5V 10
11
12
13
GND

1M Ohm
1M Ohm
1M Ohm
1M Ohm

POWER

THE PINS:

pin 6,8 - Function generator

pin 2,3,4,5 - Receiving pin for first
four sensors

pin 9,10,11,12 - Receiving pin for
other four sensors

pin 7 -Enabling pin

TO OUTPUT DEVICE

## Analysis

- Pins 2,34,5,9,10,11,12 are connected to capacitive sensors.
- The Arduino receives a signal if the sensors are touched.
- Based on touch patterns Arduino decodes the signal and maps it to corresponding asci code  and transfers to display device configured.
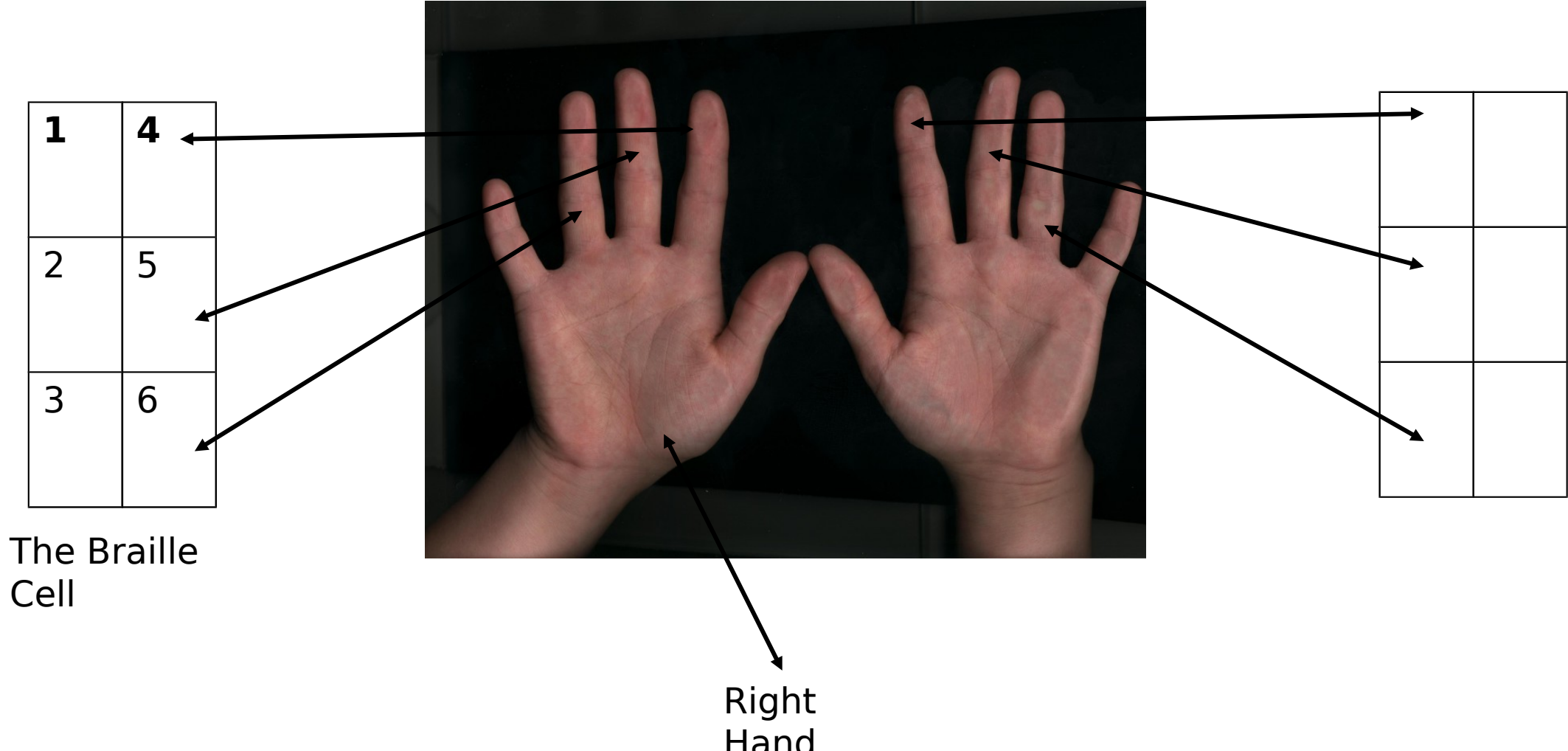- Then,using MATLAB the character received is converted to Braille Image.

# Braille Script

## The Braille Cell

| 1 ● | ● 4 |
|-----|-----|
| 2 ● | ● 5 |
| 3 ● | ● 6 |

A dark dot in braille cell corresponds to a touch by corresponding finger on capacitive sensor.



Braille alphabet A–Z and numbers # 1 2 3 4 5 6 7 8 9 0

The Braille Cell

Right Hand

# Necessity

### Percentage Of Blind children educated in India

5%

■ 1
■ 2
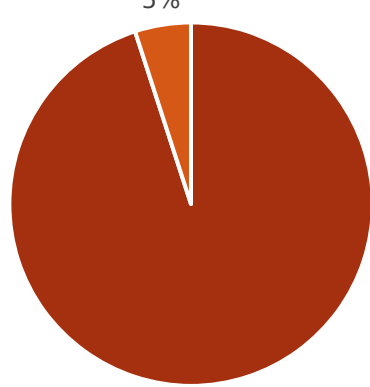
1-educated;2-uneducated 95%

### Chart Title
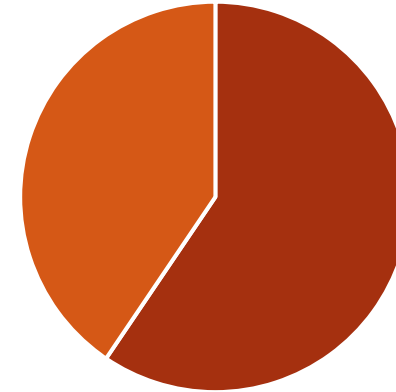
■ Total blinds in rest of world ■ Blinds in India

## Necessity

- India being home to maximum no. of blinds in world,it is very important to increase their literacy rate for country's development.
- It will increase employment opportunities for the challenged ones.
- First-hand experience of growing technology

## Easy Implementation

- Components used in the prototype are very usual ones like Arduino is one of the most commonly used micro-controller and capacitive sensors are also used widely nowadays,thus rejecting the scenario of unavailability of components.
- Moreover,the correspondence between Braille cell and finger touch is very easy to learn for any person.

## Edge over other products

- adaf

# THANK YOU!

# QUESTIONS?

# Prioritization of Issues

| Priority order | Time frame available for decision | Financial Impact | Strategic factors |
|---|---|---|---|
| **#1** Re-commissioned | **1-2 months** | Evaluated Loss: **25,000 INR** | **Peak Entertainment period ahead** (Olympics 2016) |
| **#2** Fire Accident | **3-4 days** | **Loss of equipment** | **Product unavailability at peak season** |
| **#3** Corporate Advertising Proposal | **1-2 weeks** | Potential Profits (per ad): **32,264 INR (5-year)** | **Need for diversification** |

## Evaluation of Options

**Option 1**: SET's proposal

**Option 2**:

**Option 3**:

**10%** ↓

SET is paying at reduced level

- **Accept offer**
- **Still making operating profits**

**>5%**

Margin is secured

- **Cost savings are ensured**

IDEATION

- **Utilise the savings to develop more creative content**

RFP's total revenue(Drama-FY 2015)
**50,00,000 INR**

**5%** of profits - **DRAMA**

**Total Operational Profits**

**2,50,000 INR**

# Evaluation of Options

**Option 1**:     SET's proposal

**Option 2**:

**Option 3**:

## Negotiations with SET

- **Increased fee** for re-commissioned programme to pay compensation

- **Celebrity element** associated with Vijender Singh
    - Increased **viewership**
    - Huge **fan-following**
- **Compensation to GGG** to loop in the leading actor

- **Time availability** to approve the contract

# Analysis

**Option 1**:  SET's proposal

**Option 2**:

**Option 3**:

**Revenue Analysis
(in thousand INR)**



FY 2014 — **76%** — **24%**
**21,789** — **6,821**

FY 2013 — **20,620**

0   5,000   10,000   15,000   20,000   25,000   30,000   35,000   40,000

■ **Drama**   ■ **Total revenues**
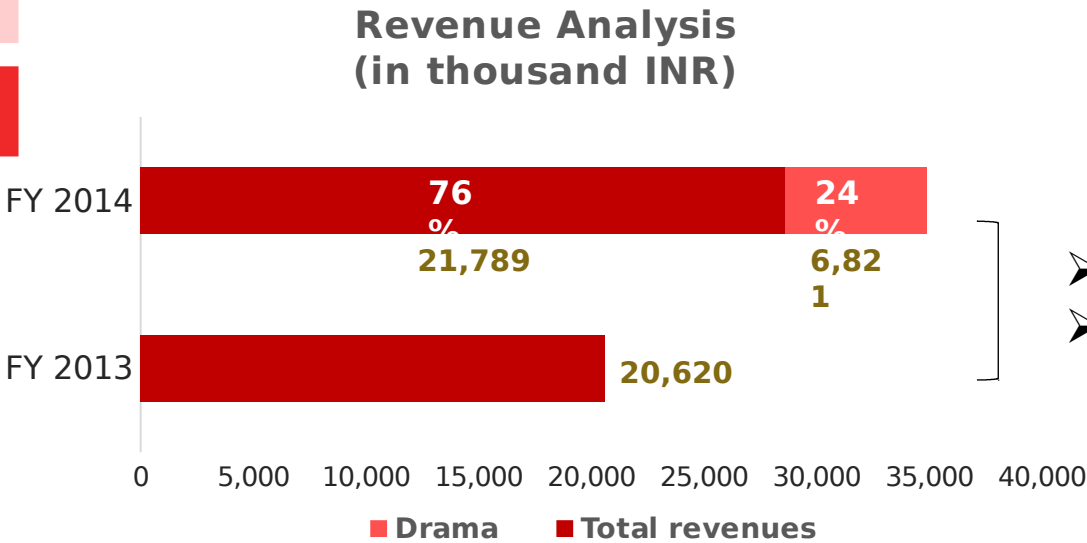
➢ **39% overall growth** in revenue
➢ **Drama series** contribute **85%** of the growth

**Operating profits (INR)**



280000

270000    FY
2014
260000

250000

240000                          FY
2015
230000

1                                    2

➢ **9% decrease** in operational profits
➢ **Operating margins** maintained at **5%**

*Source: Ref1, Ref2*

# Recommendation

**Option 1**:    SET's proposal

**Option 2**:

**Option 3**:

## Compensation Model

- Ask **SET** to compensate to **GGG**
- **Enhanced viewership** in upcoming Olympic season
- **Potential growth** for marketing opportunities
- **Sports Icon** will increase the brand value

## Proposal to RFP

- **10% reduced fee** is enough to generate operating profits
- **Savings** from compensation can be utilized for **better** content development
- **International Sales** can expect a boost

# Summary

## ➢ Situation

- **Fire mishap** on set building location
- Allegedly cause is **lack of concentration & tiredness** of workers

## ➢ Constraints

- **Lack of flexibility** for filming schedule
- **Mismanaged** building of sets
- **Unavailability of set** & **lack of time** to submit VT

## ➢ Decision Guidelines

- Quality Maintenance
- Reputation
- Ethical considerations
- Optimal Recovery proposal

### Case-I : Cash in hand

- **Internal cash management** between production & finance departments
- **Lack of financial debts** will lead to spending cash reserves

### Case-II : Low Cash Reserves

- Further delay on projects
- **Lesser funding** due to loss of reputation in future
- **Dilution of Brand's Image** due to excess payments on operating profits
- **Quality Reduction**

# Recommendation

How to avoid such mishaps in future?

## Mitigation Strategies

- **Trained set builders** to be hired

- **Vocational Trainings** for handling such incidents

- **Regularly supervised set building**

- **Regulated check in** salary payment of set builders

- **Flexible scheduling** to avoid long working hours & delays in projects

# Evaluation of Idea

**Market Analysis**

## Market Size

**Growth Potential**

**Ease of Entry**

**Digital Advertising Market in India (in INR Crores)**

| FY | INR Crores |
|---|---|
| FY 2011 | 1,140 |
| FY 2012 | 1,750 |
| FY 2013 | 2,260 |
| FY 2014 | 2,750 |
| FY 2015 | 3,575 |

**+11.5%**
*(2014)*

**+10%**
*(2013)*

43,065
*(2014)*

38,598

35,074
*(2012)*
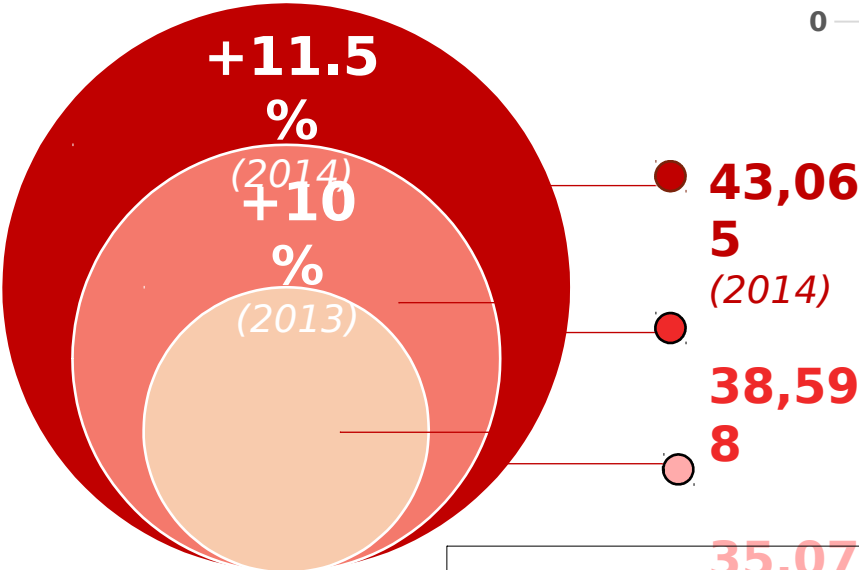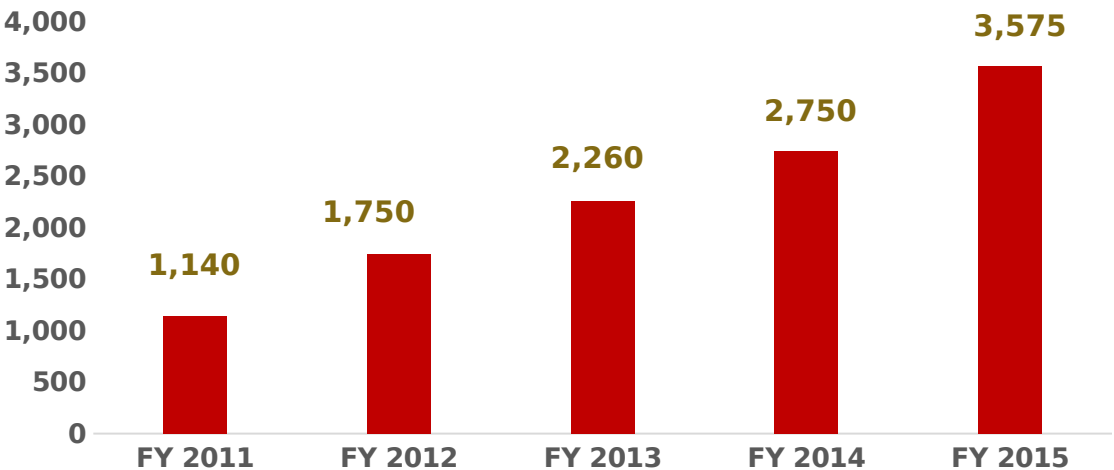
**Total Adex (INR Crores)**

- **37%** of active internet users ... Ads → **FMCG**

*Source: Ref5, Ref6*

# Evaluation of Idea

**Market Analysis**

**Market Size**

**Growth Potential**

**Ease of Entry**

## Data Insights

➢ Tele-advertising in India

**Ad Revnue (%)**

2013

42
40
5
8
5

- Television
- Print
- Radio
- Internet

**Ad Revnue (%)**

2018 (E)

34
40
4
16

- Television
- Print
- Radio
- Internet
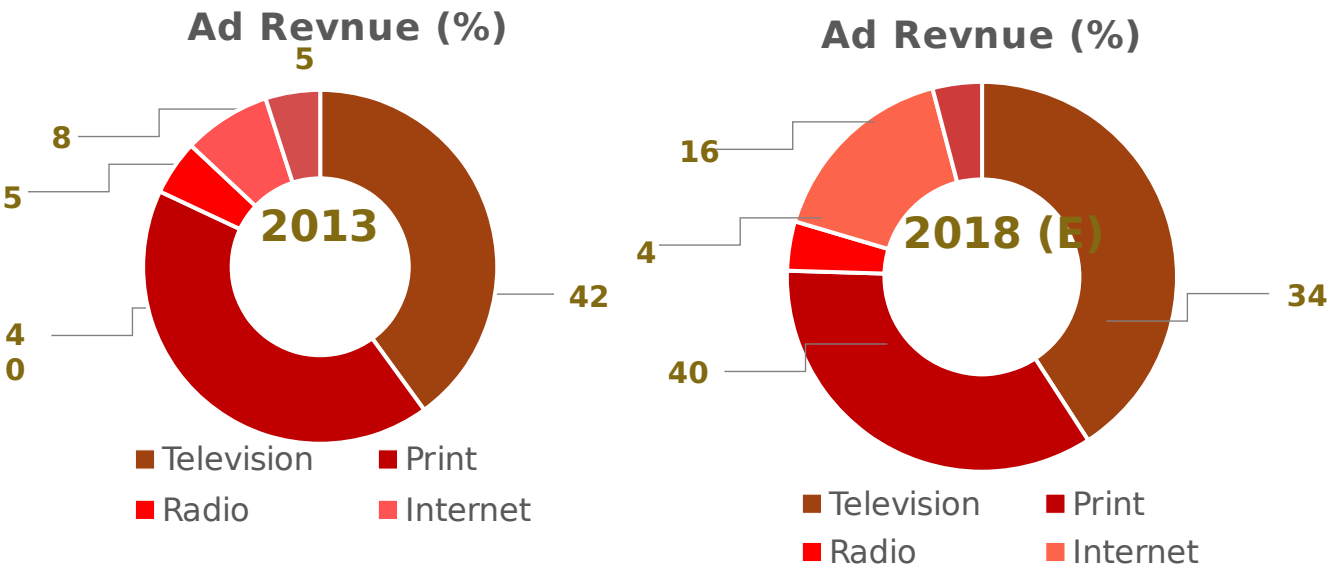
➢ **Online media** is potentially **growing** for specific content

**Indian Tele-advertising is expected to grow at 16.2% CAGR for 2014-18**

*Source: Ref3*

# Evaluation of Idea

**Market Analysis**

**Market Size**

Growth Potential

**Ease of Entry**

## Why YouTube?

**71 %** active user's first video destination

**Mobile Usage 17 %** *(on a daily basis)*

**27 %** *(on weekly basis)*

*CPV CPC*

**Models**

**DEMOGRAPHICS**

**CUSTOM AFFINITY SEGMENTS**

**IN-MARKET**
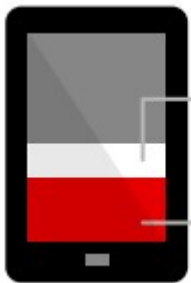
**SIMILAR AUDIENCE**

**CONTEXTUAL TARGETING**

**Youtube Targeting Possibilities**

# Financial analysis

**Cost Analysis**

**Revenues & ROI**

## Worst Case Scenario Analysis

**Cost (Skills) level**

| | | FY 2015 | FY 2016 | FY 2017 | FY 2018 | FY 2019 |
|---|---|---|---|---|---|---|
| **Average** | Revenue | 17,000 | 21,250 | 26,563 | 33,203 | 41,504 |
| | Profits | -700 | 6,205 | 13,774 | 22,333 | 32,264 |
| **Higher Costs** | Revenue | 17,000 | 21,250 | 26,563 | 33,203 | 41,504 |
| | Profits | -1,500 | 5,525 | 13,196 | 21,842 | 31,847 |

**417 INR**

Total profits (per ad):

**1.29% decrease**
**(as compared to 5 year plan)**
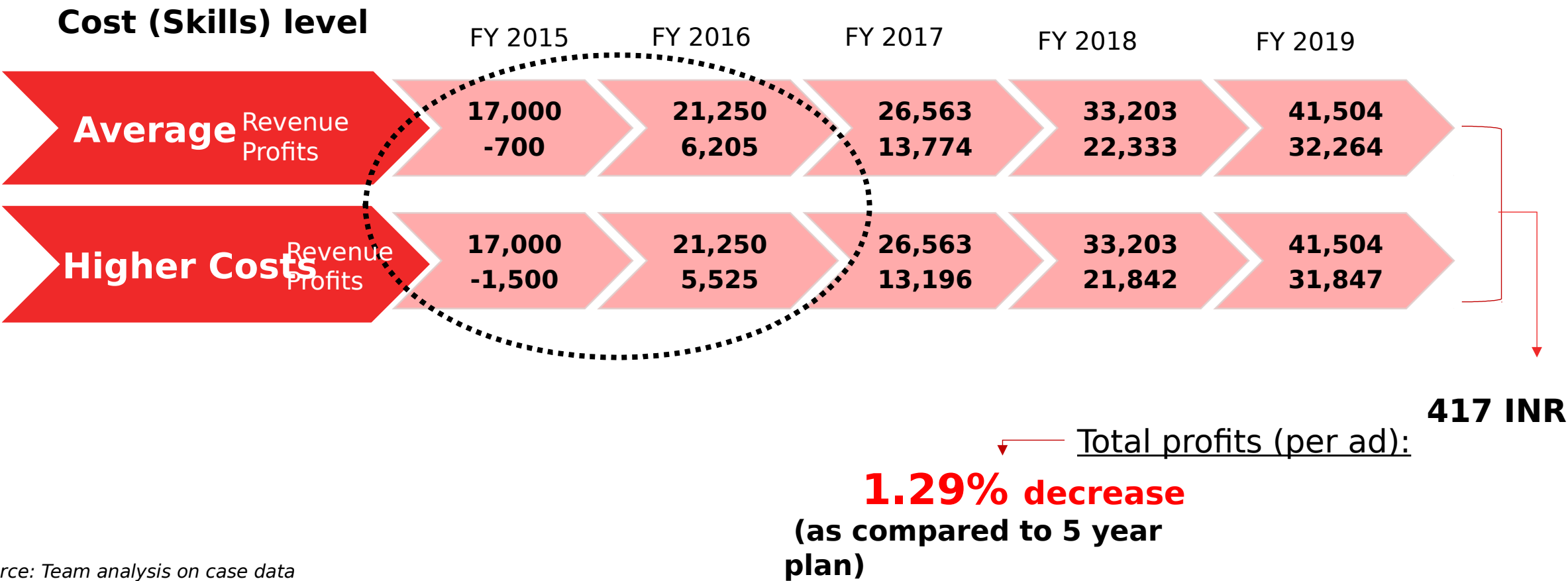
*Source: Team analysis on case data*

## Summary



Revenue vs Cost-Distribution
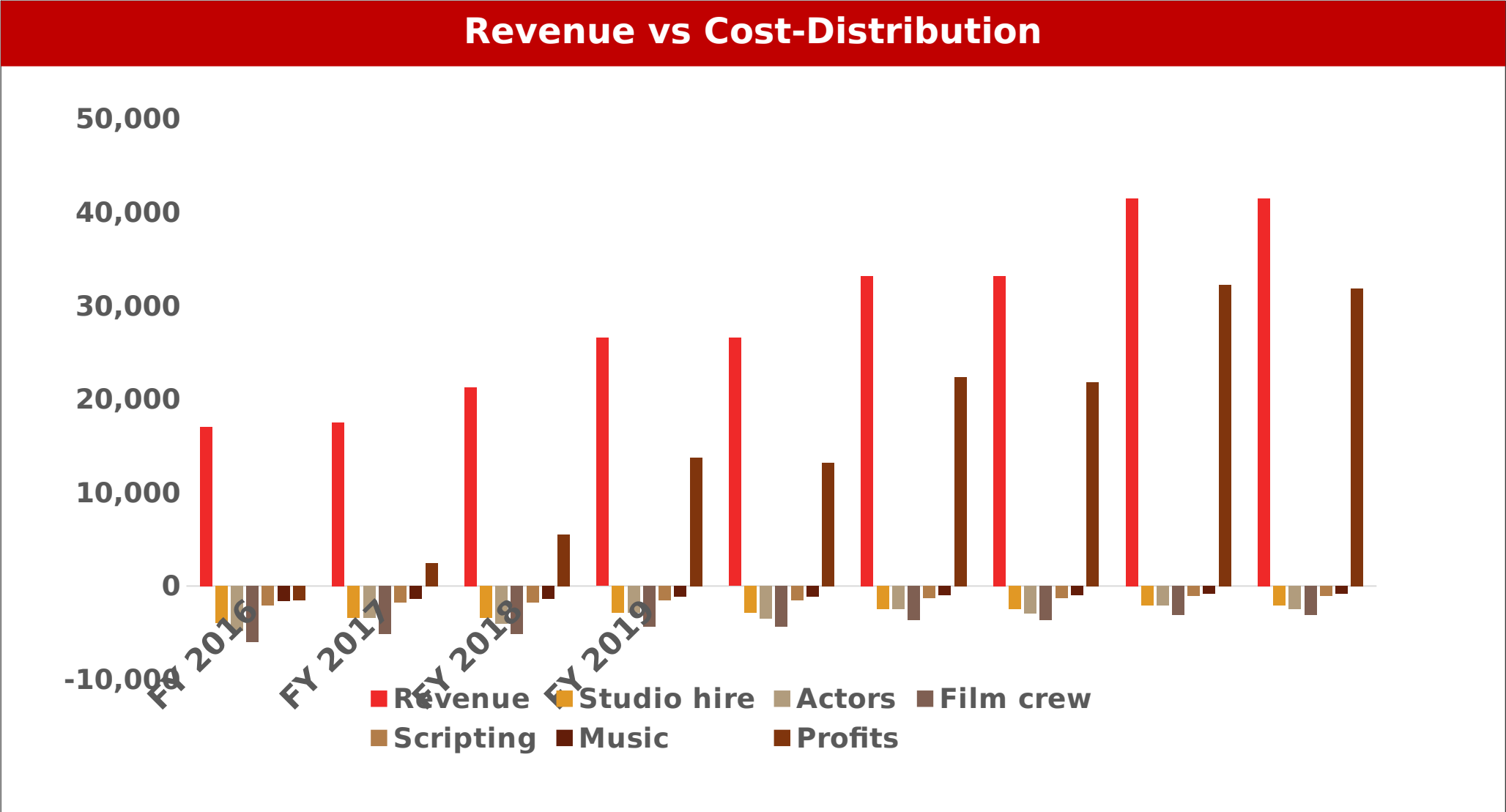
## Summary

### Recommendation

- **Reject proposal** (as of 1 Nov 2012)
- Launch Ads on YouTube as well

### Note 1 & Note 2

- **Sustained Profit Growths**
  - Only 1.29% decrease in profits
  - RFP should hire **more talented actors**

### Why expand to newer domain?

- **Highly profitable** future returns
- **Negligible** losses in comparison to operating profits

### Marketing Strategy for HUL

- **CSR Advertising** will give sudden boost to the companies noble policies & strategies

- Product Line Specific **online events** can be channelized via **Facebook & YouTube**

- **Better controlled consumer insights** through the applications of Big-Data in Marketing & Consumer Analytics

# Kriti Case Study

## Questions?

# Appendix I

| Description | FY 2015 | | FY 2016 | | FY 2017 | | FY 2018 | | FY 2019 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Case I | Case II | Case I | Case II | Case I | Case II | Case I | Case II | Case I | Case II |
| | Rs | Rs | Rs | Rs | Rs | Rs | Rs | Rs | Rs | Rs |
| Revenue | 17,000 | 17,000 | 17,500 | 21,250 | 26,563 | 26,563 | 33,203 | 33,203 | 41,504 | 41,504 |
| Studio hire | -4,000 | -4,000 | -3400 | -3400 | -2890 | -2890 | -2456.5 | -2456.5 | -2088.03 | -2088.03 |
| Actors | -4,000 | -4,800 | -3400 | -4080 | -2890 | -3468 | -2456.5 | -2947.8 | -2088.03 | -2505.63 |
| Film crew | -6,000 | -6,000 | -5100 | -5100 | -4335 | -4335 | -3684.75 | -3684.75 | -3132.04 | -3132.04 |
| Scripting | -2,100 | -2,100 | -1785 | -1785 | -1517.25 | -1517.25 | -1289.66 | -1289.66 | -1096.21 | -1096.21 |
| Music | -1,600 | -1,600 | -1360 | -1360 | -1156 | -1156 | -982.6 | -982.6 | -835.21 | -835.21 |
| **Profits** | **-700** | **-1,500** | **2,455** | **5,525** | **13,774** | **13,196** | **22,333** | **21,842** | **32,264** | **31,847** |

# Appendix II

References

- Ref1:
  http://www.afaqs.com/news/story/41820_Online-Ad-Spends-in-India-to-touch-Rs-3575-crore-by-March-2015
- Ref2:
  http://www.on-click.es/limitless/why-flipkart-is-likely-to-succeed-with-its-upcoming-app-only-avatar/
- Ref3:
  http://www.digitalstrategyconsulting.com/india/
- Ref4:
  https://webrepublic.com/en/blog/2015/2/16/infographic-everything-about-youtube-marketing/
- Ref5:
   http://www.medianama.com/2015/02/223-advertising-in-india/
- Ref6:
  http://www.ambientinsight.com/Resources/Documents/AmbientInsight_Ser