# Project Dissertation
# Assessment of property tax collection
# for the state of Andhra Pradesh

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# STUDENT'S DECLARATION

This is to certify that I have completed the project titled "Assessment of property tax collection for the state of Andhra Pradesh" This work was done under the guidance of Dr. Vikas Gupta (Assistant Professor, Delhi School of Management) in the partial fulfilment of the requirement for the award of the degree of "Master in Business Administration" from "Delhi School of Management, Delhi Technological University."

It is also certified that the project of mine is an original work and the same has not been submitted earlier elsewhere.

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I pay my regards to Dr. Vikas Gupta, my project Guide for blessing me with his guidance and knowledge. I appreciate his efforts and constant advice, inspiration and motivation. I am also thankful for encouraging to wok sincerely in my project work.

The resources provided by the institution and library was crucial for my research and I am was able to utilize it to complete my project for which I am thankful of them and I thank each and every person who helped me in this endeavour including my family and friends which created an environment to enhance my knowledge.

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# EXECUTIVE SUMMARY

V Square Services is a company which provide third party tax collection services for Property tax. It collected 70 percentage of property tax debt which was 20 percentage more than that collected by the government which was only 50 percentage. This research tries to understand the method used by the organization in accomplish this efficiency and whether it can be implemented to other parts of the country. They achieve this feat by adopting a different methodology which was instead of collecting the tax simultaneously for the whole state they bifurcated it on the basis of villages which allows them to focus one place at a time there Firstly they collected information about the state about people then instead of telling each and every property owners their required debt they went on to create awareness about the advantages of paying tax and elaborating the benefits of paying tax on time and helping the nation grow this was achieved by organizing various awareness campaign in person as well as on social media after enlightening the people an invoice was raised for each and every homes and it was personally delivered to each and every homes and it was made sure that everyone received it. The whole process up till now requires about 10 to 12 days depending on the size of the village. After distributing the invoices people are given time of about 20 days to pay their taxes. After the complete process of 30 days the organization moves on to new village where the same process is repeated.

To access the feasibility of the model adopted by the organization and possibility of the implement of it in the state of Andhra Pradesh as well as the whole country it needed to be recognize the challenges people are facing while paying property tax, what are the reasons people are avoiding these taxes and how can they be motivated to pay them on time. Basically the aim is to know the people up close and their driving forces behind taking paying or avoiding property tax along with it discover issues and flaws in the current tax collection model implemented by the Government of India for this purpose so it can be rectified. The research also wants to understand expectation of people from the paid tax or from the government and weather these expectations can be fulfilled by the company and if the fulfilment of these immediate needs impacts the amount collected.

**CONTENTS**

# Chapter 1: INTRODUCTION

## 1.1 About the state

Andhra Pradesh in terms of area, seventh largest state of India and tenth largest by population with a literacy rate of 67.66% as per 2011 calculation. The state is sub divided into **13 district** and further divided into **679 mandals**.

Table 1.1: (Population of Andhra Pradesh district wise breakage with are of each district)

| |
|---|
| **Districts with mandals in Andhra Pradesh** |

| S.No | District | Headquarters | Revenue Divisions | Mandals | Population | Area (in sq.km) | Density (per sq.km) |
|---|---|---|---|---|---|---|---|
| 1 | Anantapur | Anantapur | 5 | 63 | 40,83,315 | 19,130 | 213 |
| 2 | Chittoor | Chittoor | 3 | 66 | 41,70,468 | 15,152 | 275 |
| 3 | East Godavari | Kakinada | 7 | 64 | 51,51,549 | 10,807 | 477 |
| 4 | Guntur | Guntur | 4 | 57 | 48,89,230 | 11,391 | 429 |
| 5 | YSR Kadapa | Kadapa | 3 | 50 | 28,84,524 | 15,359 | 188 |
| 6 | Krishna | Machilipatnam | 4 | 50 | 45,29,009 | 8,727 | 519 |
| 7 | Kurnool | Kurnool | 3 | 54 | 40,46,601 | 17,658 | 229 |
| 8 | Sri Potti Sri Ramulu Nellore | Nellore | 5 | 56 | 29,66,082 | 13,076 | 227 |

| 9 | Prakasam | Ongole | 3 | 56 | 33,92,764 | 17,626 | 193 |
|---|---|---|---|---|---|---|---|
| 10 | Srikakulam | Srikakulam | 3 | 37 | 26,99,471 | 5,837 | 462 |
| 11 | Visakhapatnam | Visakhapatnam | 4 | 46 | 42,88,113 | 11,161 | 340 |
| 12 | Vizianagaram | Vizianagaram | 2 | 34 | 23,42,868 | 6,539 | 384 |
| 13 | West Godavari | Eluru | 4 | 46 | 39,34,782 | 7,742 | 490 |

(Source: Census Population 2011 Data)

## 1.2 Property tax

Property tax is one of the major sources of revenue for government bodies in the state of Andhra Pradesh.

According to panchayat act of Andhra Pradesh 1994 property to ULBs are categories into

1. Residential
2. Non-Residential (Commercial)

1. Local government collect property tax based on the valuation of the property.
2. Collected tax are used for the jurisdiction in which it is collected.
3. All property is liable to pay property tax except residential buildings whose annual rental value of below Rs 600 are exempted of tax.

1.2.1 Property tax comprises of the following components

1. Water tax and drainage tax
2. Tax for general purpose
3. Lighting tax
4. Scavenging tax

## 1.3 Name of Revenue divisions in different districts

Table 1.2: (Name of revenue divisions in the district of Andhra Pradesh)

| Different revenue divisions districts wise | | |
|---|---|---|
| District name | Divisions count | Revenue Divisions |
| Anantapur | 05 | Anantapur, Dharmavaram, Penukonda, Kalyandurg, Kadiri, |
| Chittoor | 03 | Tirupati, Chittoor , Madanapalle |
| East Godavari | 07 | Amalapuram, Kakinada, Etapaka,, Rajahmundry, Peddapuram, Rampachodavaram, Ramachandrapuram |
| Guntur | 04 | Guntur, Gurazala , Tenali, Narasaraopet |
| Kadapa | 03 | Jammalamadugu, Rajampeta, Kadapa, |
| Kriishna | 04 | Gudivada, Vijayawada, Machilipatnam, Nuzvid |
| Kurnool | 03 | Kurnool, Adoni, Nandyal |
| Nellore | 05 | Atmakur, Nellore , Gudur, Naidupet , Kavali, |
| Prakaasam | 03 | Kandukur, Ongole , Markapur |
| Srkakulam | 03 | Srikakulam, Tekkali . Palakonda |
| Visakhapatnam | 04 | Anakapalle, Visakhapatnam , Paderu, Narsipatnam, |
| Vizianagaram | 02 | Vizianagaram , Parvathpuram, |
| West Godavari | 04 | Eluru, Jangareddigudem , Kovvur, Naraspuram |

(Source: Self-created)

## 1.4 Objectives of the Research

The objective of the research are as follows

1) To understand the current model of property tax collection adopted by the government of Andhra Pradesh and its short cummings.
2) To comprehend what are the driving forces of people of the state to pay property tax or default them.
3) To recognize the challenges people are facing in paying property tax within deadlines.
4) Be able to suggest means to improve existing methodology adopted by state to collect property tax.

# Chapter 2: RESEARCH METHODOLOGY

To understand the opinion of people towards tax collection and explore existing methods of property tax collection, research methodology such as primary and secondary research was done.

Research types: Primary research and secondary research

## 2.1 Primary Research

Primary research is the research where data is collected by the researcher on their own. It includes directly contacting the involved parties and communicating with them asking about their opinion which can be stored in the form of qualitative or quantitative data. Primary research can be accomplished by the following methods.

1. Survey which can be online and offline.
2. Interviews which can be in-person or over a phone call.
3. Focus group.
4. Physically visiting the competitors.
5. Questionnaire.

In the following research to identify the reasons for people paying property tax and avoiding it, questionnaires were prepared and the survey was conducted under primary research to understand the motivation and driving forces and as it wasn't feasible to conduct a survey of whole population as in this case state of Andhra Pradesh. Sampling technique is used.

Convenience sampling is in effect in this case as it the easiest form of sampling, where sample is created by people who are easily available in the case of research to gather enough data to understand the reasons a sample size of 50 participants is enough to base a hypothesis.

During the process of primary research normally there are two kinds of information collected:

Exploratory data is the one explore the opinion of people and are in the form of lengthy interviews with the involved party and in the form of open-ended answers to the elaborate questions.

Specific data tries to answer specific questions with directly asking question to information required. In the research specific data is collected with the help of survey which highlight specific reasons which involve the fate of collection of property tax in the state of Andhra Pradesh. As the primary research was expensive and very tedious task so not a lot of data has been acquired as the availability of target audience was also a challenge during the research but enough data has been collected to draw conclusions based on it.

## 2.2 Secondary research

Secondary research is gathering information form already published report and data available in the public domain. In can be turn out to be cost saving as the information is easily available on the internet or various reports which are easily available. During the research information such as assessment of property tax its procedure of assessment, calculation formula, slabs, method of payment were taken from the government website with gram panchayat ac 1994. Data such as review of puraseva (a government application for tax collection) was taken from the google play store. Information about the population, mandals and area for the state of Andhra Pradesh was extracted by Census Population 2011 Data. Amount of revenue generated by the government from property tax in different districts of the states were also acquired from the government website.

# 2.3 ASSESSMENT OF PROPERTY TAX

## 2.3.1 PROCEDURE OF ASSESSMENT:

Procedure to be followed for new Assessment of Property Tax as per Section 197 Section 198(2).

- The person applying for have to give the application form with proper documents ti the Deputy commissioners/CSC for assessment of the Tax

along with documents mentioned below.

- VO/TI/AMC/concern tax inspector observes the property and make sure if it in position of tile legal government document or is disputed and prevailing rate of residential as per ABUR or Area based unit rates of guidelines.
- PTIN or property tax identification number is created for new assessment along with the house no.

## 2.3.2 Itinerary of Documents Required:

i.. Link Documents attested by Gazetted Officer.

ii. Photocopy of Sanction Plan

iii. Registered Sale Deed / Gift Deed / Partition

iv. Occupancy Certificate: Assessment Scheme:

- Assessment Scheme is introduced by GHMC. The property owner will have to show application for their fresh assessment online while providing all the details mentioned such as, Occupancy Certificate Number, Building Permission Number, nature of the building, Locality Name, plinth area, usage. With the help of it, the estimated yearly property tax will be projected on the screen.
- The concerned VO/TI/BC will inspect the premises and levy property tax as per prevailing rates.
- The Online application is submitted to the Deputy Commissioner.

## 2.4 Tax Collection formula

Site value = site (sq. y) * Govt. value

Building Value = Area (sq. ft) * Rate

Site +Building value = Site value + Building value – Depreciation

Library cess = 8%

Lightning tax = 10%

Private tap fee varies depending on the panchayat of that particular area.

House tax = (0.12 % of Site + Building value)

Formula for property tax = House Tax +Water tax + Library cess + Drainage + Lightening tax

## 2.5 Application of tax money

Tax collected by the government are majorly spent on the following areas.

- Education
- Sewer improvements
- Road and Highway construction
- Fire Services

## 2.6 Property tax calculation

Property tax of residential buildings

Property tax is based on the per unit Area of land.

For Non residential building

For all non residential building irrespective of ARV, the property tax rate is 30%.

Property tax auto calculator is also available online at www.cdma.ap.gov.in website.

# 2.7 Methods of payment

Property tax is collected semi-annually 1st half in June and 2nd half in December

Tax collection is managed with the help of the following ways

1. CDMA Portal using your Debit card/Credit card/Net banking.
2. Puraseva mobile application.
3. Citizen service centres.
4. E-seva centres within municipal limits.

## 2.7.1 Rebate on taxes

When tax are paid before April 30th of the year, a rebate of 5% of property tax is given.

A discount of 40 percent of the Annual Rental Value(ARV) is awarded to the building in that includes.

Table 2.1 : (Method of tax calculation)

| Age of the building | Deduction allowed |
|---|---|
| below 25 years of age | 10% * (A.R.V.) |
| between 25 years 40 years | 20% * (A.R.V.) |
| over 40 years of age | 30% * (A.R.V.) |

(Source : Puraseva mobile application)

## 2.7.2 Penalty

The state of Andhra Pradesh collects property tax yearly. In case of failure of payment of tax for a year, 25% extra of the total tax amount along with tax amount is due is levied as well as a penalty on property tax is levied on unauthorised construction.

## 2.8 PuraSeva mobile application



*Figure 2.1: (Puraseva mobile application logo)*

*Source: (From puraseva page on google play)*

Puraseva is a mobile application which is an online portal for collecting property tax for state: Andhra Pradesh

# Chapter 3: ANALYSIS

## 3.1 Issues with the PuraSeva application

1. The application is buggy, force close on itself during performing various process, the reason could be poor compatibility with new android versions.

2. The grievance department is inefficient.

3. Some of the people still reluctant to pay this amount online due to trust issues.

4. The application overall is very slow even on faster internet connections.

5. Various other problem faces by the user which include.

   - Difficultly in downloading payment slip

   - Difficulty in opening the payment gateway page

   - Slow in payment

   - Failed to load grievance tab in the application

## 3.2 Sentiment analysis

**3.2.1 Sentiment analysis** is a text mining technique which provide context to the text and able to understand information from the subjective abstract source material, it helps in understanding social sentiment towards a brand product or service with the help of online conversation on social media platform like Facebook, Instagram and twitter or via email. In this case sentiment analysis was done to the google play review of Puraseva application which allows to comprehend the perception of the user and measure the level of their satisfaction from the application.

**3.2.2 Sentiment analysis of few of the comment of the Application reviews on play store**

A Word cloud is representation of test data which highlight the most frequent words by increasing the size of it. The technique is used to visualize text as an image. It is a collection of words or tags.
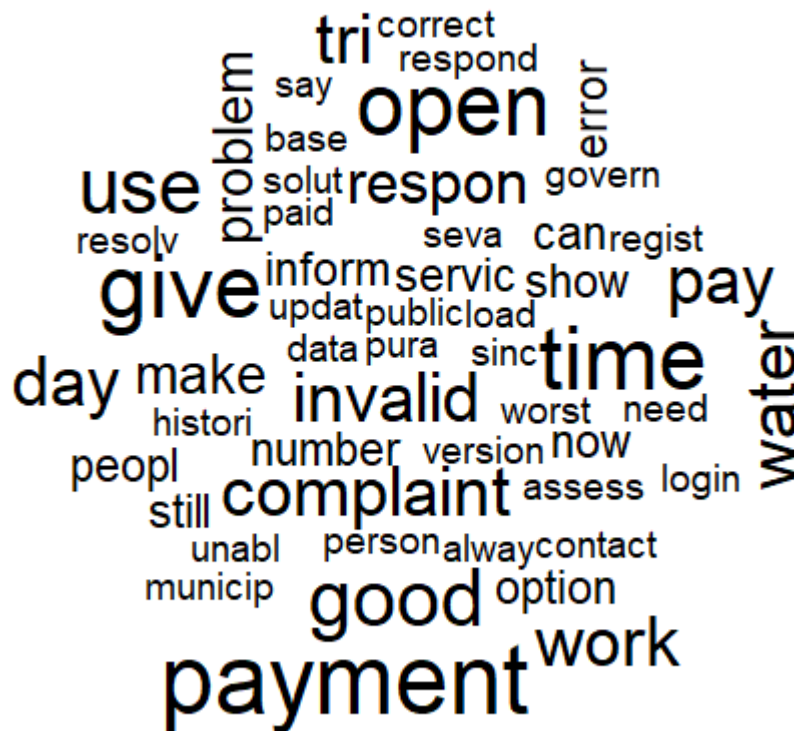


Figure 3.1: (Wordcloud of google play store puraseva app reviews)

Source: (Self-analysis)

Word cloud of people talking about on the review section of the application clearly states that people are talking about payment, grievance, complaints etc.
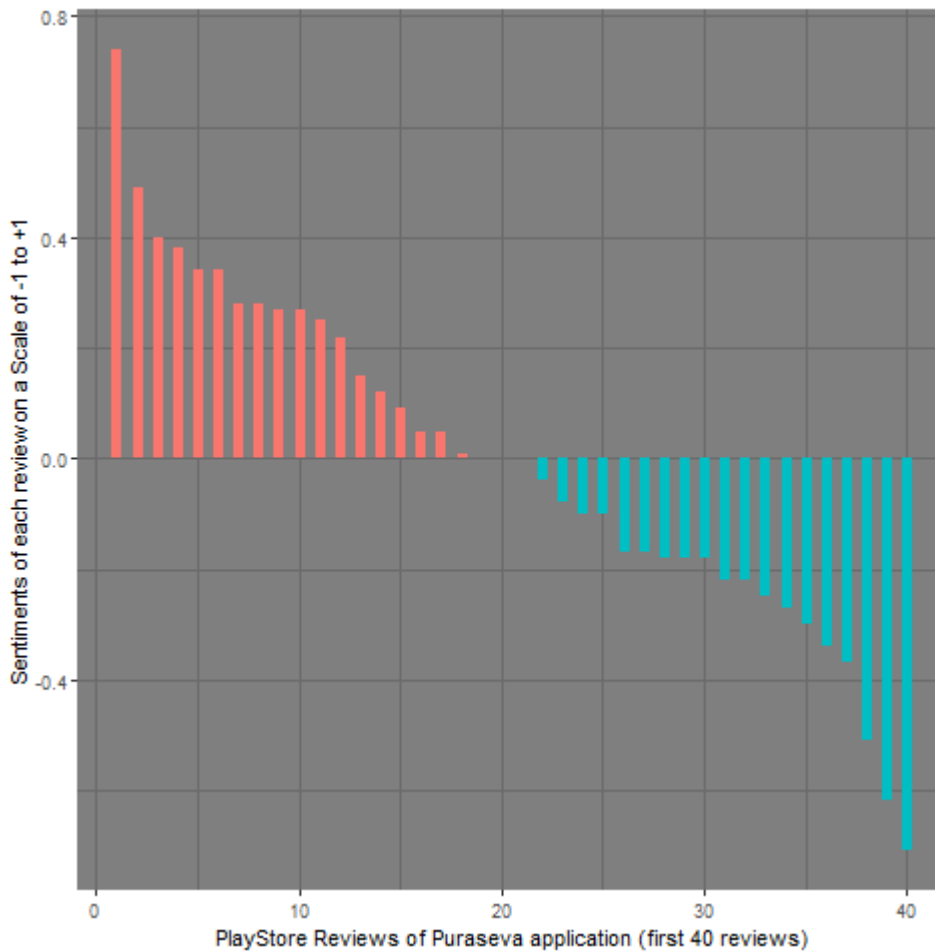
Figure 3.2: (Sentiment analysis of google play store puraseva app reviews pink representing positive sentiments and blue negative)

Source: (Self-analysis)

The above graph shows the analysis of google play reviews and by giving them score between -1 to 1 to each google play review categories the sentiment of each review as positive and negative where pink depicts positive reviews and blue negative. It is clear from the graph that negative sentiments are present in more than half of the reviews which reflect the frustration of the user of puraseva application.
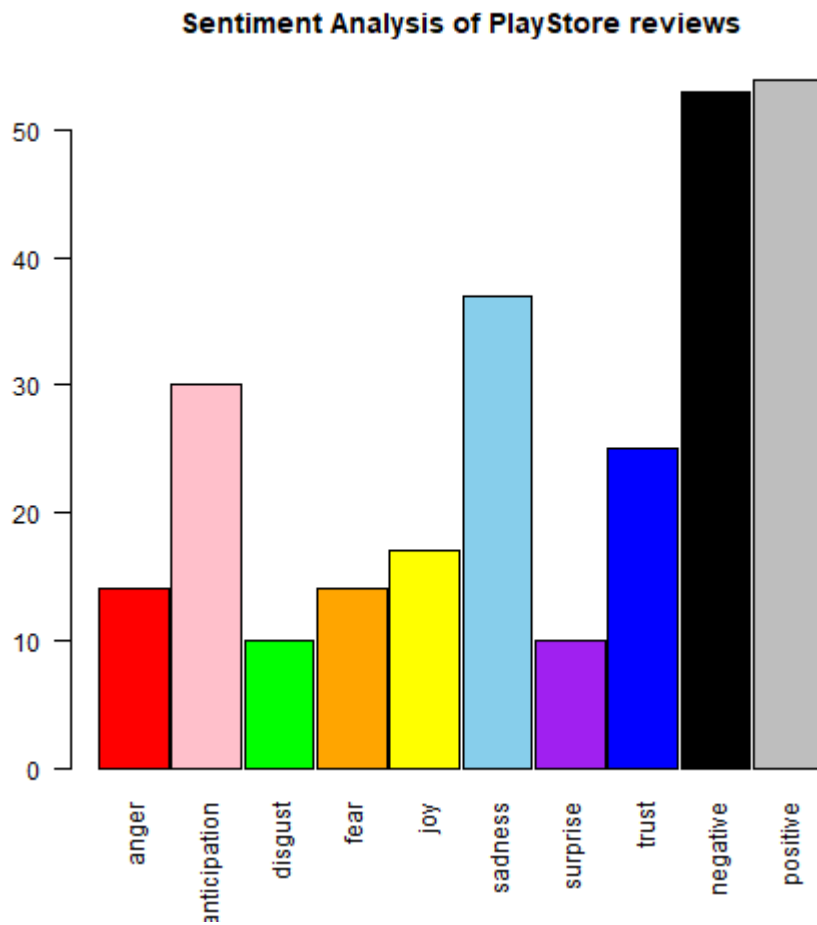
Figure 3.3: (Sentiment analysis of google play store puraseva app reviews)

Source: (Self-analysis)

The above graph characterizes the text of the all reviews into predefined categories, where we can observe that the sentiments of negativity, sadness and anticipation dominates among all the categories.

# 3.3 Amount of Tax Demanded to collected in 2018-19



*(For Detailed data find Exhibit A in Appendix)*



| | |
|---|---|
| 🟨 | **-Unpaid Property tax** |
| 🟧 | **-Paid Property tax** |

Figure 3.4: (Property tax collection data district wise)

Source: (Self-analysis)

## 3.4 Primary Research Analysis

To gather more information and data in order to reach a significant conclusion the collection of data is important, it is paramount to have a survey.
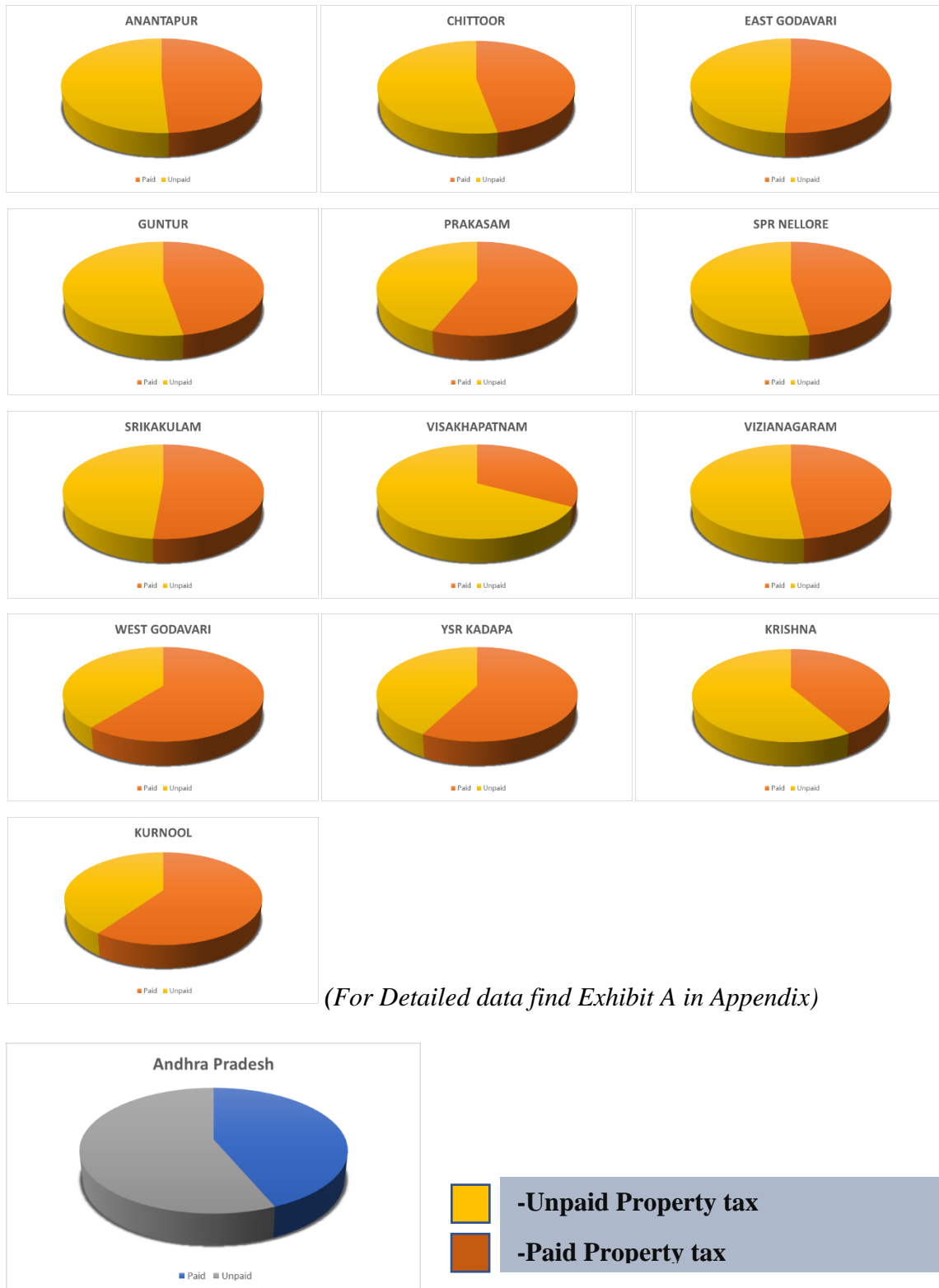
### 3.4.1 Objective of primary research

1. To find the reasons for people paying taxes, what is the driving force or the motivation to pay property tax.
2. To find out the challenges faced by people in paying taxes which is creating hindrance in the collection of tax.
3. Reasons for people not paying property taxes.

### 3.4.3 Analysis of the survey

People who participated their results are the following

1. Out of the all the people participated in the survey, 76 percent of them own a property in the state of Andhra Pradesh.
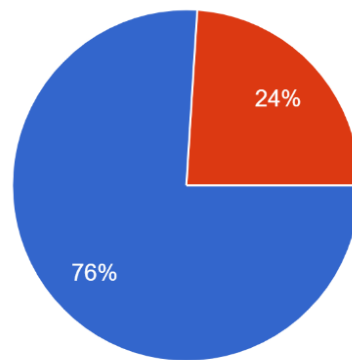


Figure 3.5: (Breakage of ownership of residential property in the state)

Source: (Self-analysis)

2. Breakage of on the basis of type of property owned by the people participated in the survey.



Figure 3.6: (Kind of property owned in the village)

Source: (Self-analysis)

3. 68 percent of people are satisfied by the drainage system in their area, where as 32 percent were not.
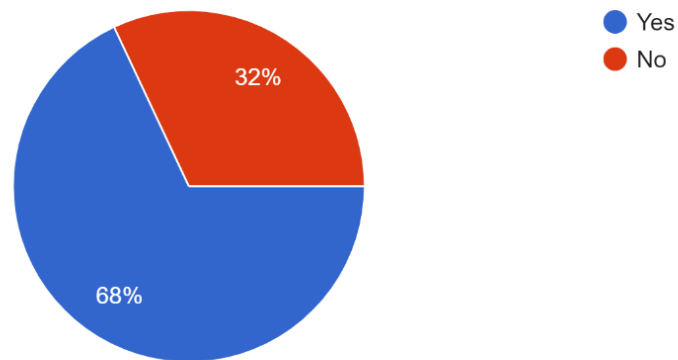


Figure 3.7: (Information about drainge facilities in the village)

Source: (Self-analysis)

4. 72 percent of people are satisfied with the condition of street light in their area, where 28 percent are not.
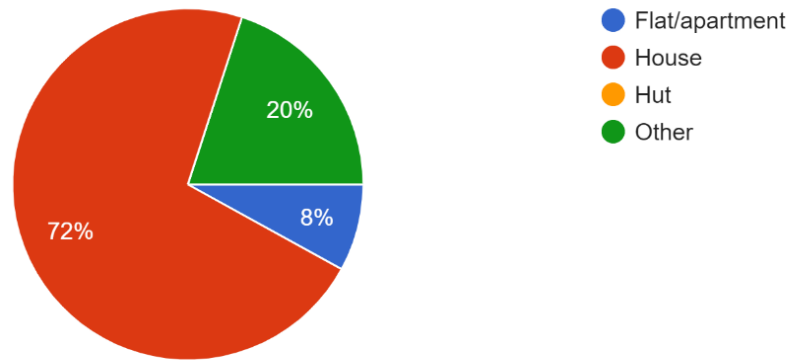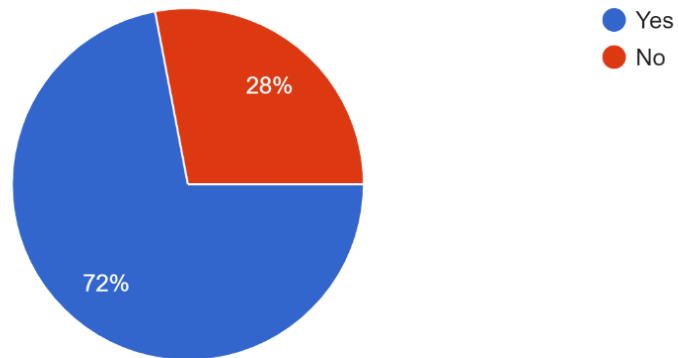


Figure 3.8: (Information lighting various facilities in the village)

Source: (Self-analysis)

5. 68 percent of people have a government managed library in their respective area, where as 32 percent do not.



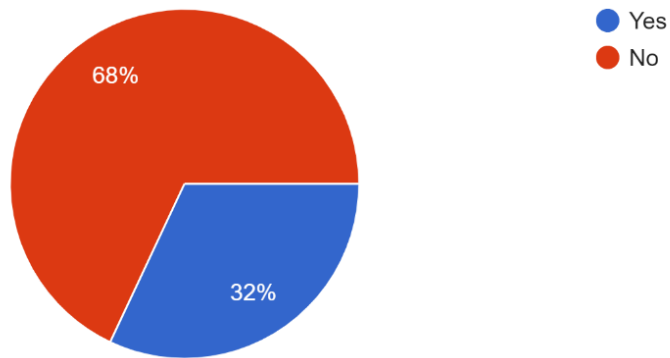Figure 3.9: (Information about availability of library facilities in the village)

Source: (Self-analysis)

6. 68 percent of people are paying all panchayati tax, where 32 percent do not pay it.
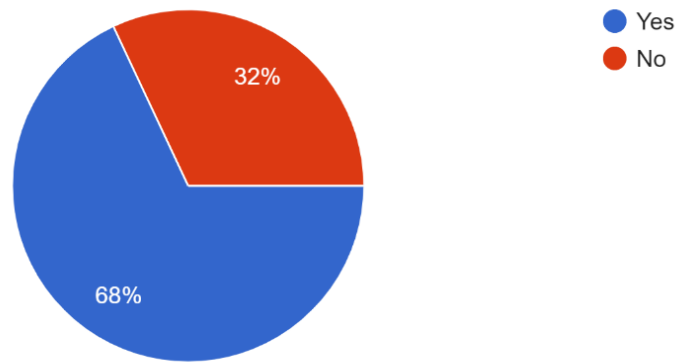


Figure 3.10: (Information about payment of taxes in the village)

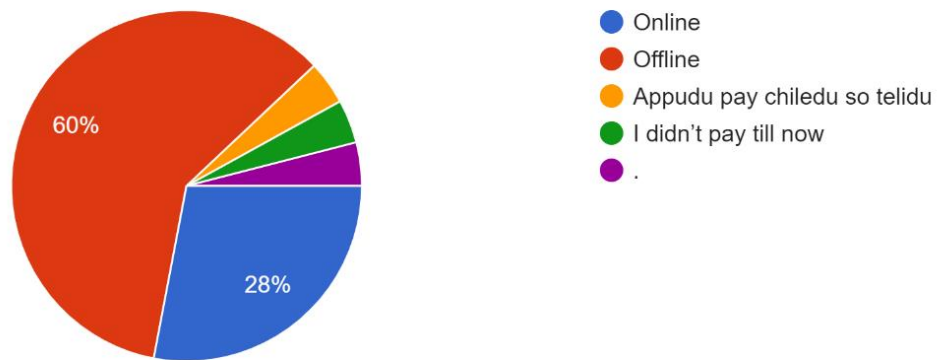Source: (Self-analysis)

7. Breakage of method of payment of tax.



Figure 3.11: (Information about method of payment of tax in the village)

Source: (Self-analysis)

# 3.5 Results of the primary research

### 3.5.1 Driving forces for people paying Property tax in the village

Some of the driving forces which motivates people for paying property tax on time are as follows

1. Contribute to the village maintenance fund. People feel good when they pay taxes and believe that they have contributed significantly in the maintenance of the village.
2. People consider their duty to pay taxes. Some of the people feel it's their responsibility to pay taxes on time.
3. Consider important to contribute to the income for the nation. One of the major reason of people paying property tax is that villagers want to contribute to the government revenue which eventually spent in nation building.
4. To have a developed area. People will pay taxes on time if the observe that the area they live in is getting good infrastructure facilities.
5. Consider their responsibility. Some of the survey also belived that its their responsibility to pay taxes on time in return of the all facilities they are enjoying by the government.

### 3.5.2 Hindrance tax payers are facing in paying property tax

1. Lack of awareness among the people for paying property tax.
2. Slow and tedious process to pay tax on online as well as offline portals.
3. Unresolved issues related to website and application.
4. Tax payers get discouraged when then see non taxpayer getting away without paying tax.

## 3.5.3 Expectation of people form paid tax money

1. Technological advancement of the village.
2. Infrastructural development which include (Roads, school, hospital services, drinking water).
3. Quick Implementation of benefits from the government.
4. Improvement of water supply.

5. They need a library in their area.
6. Regular water and electricity supply clean roads and streets.
7. They need a cricket ground or park for amusement.
8. Waste collection program which collect household waste form each and every homes of the village.

# 3.6 Reasons for paying Property tax

Major reasons for the property tax payment is early bird.

- **Early bird Initiative**

   Early bird initiative is an initiative of government of Andhra Pradesh to motivate the people to pay complete taxes in advance. If you pay the property tax before due date which is decide 5th April for the year 2018-19, government will give a rebate of 5% in property tax. This step saw an enormous surge in the number of property tax payer and the amount of Tax paid.

Taking the example of Greater Vishakhapatnam Municipal Corporation (GVMC)
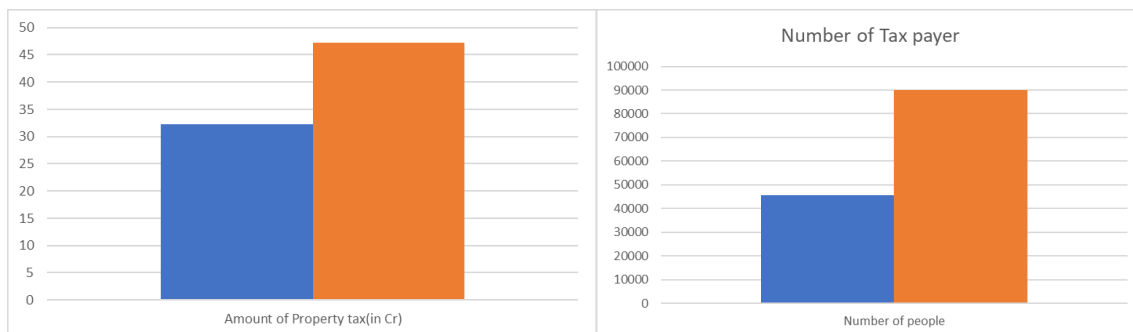


*Figure 3.12: (Information about property tax payer and defaulters)*

*Source: (http://ph.vassarlabs.com/#/revenue/collections)*

*(Detailed data find Exhibit B in Appendix)*

- **Avoid getting penalty**

As discussed above government impose penalty for delay in payment of tax. To avoid appending extra charges in form of penalty people prefer pay taxes on time.

## 3.7 Reason for avoiding of Property tax

Avoidance of property tax more due to the negligence of the tax payer. Although government have provided various alternatives for the payment in the form of online as well as offline centres but still a major portion of demanded tax is still not collected, this may be due to the following factors.

- **Literacy rate**

The literacy rate of Andhra Pradesh is 67.66% as discussed above which makes one third of the people illiterate. Despite increase in penetration of internet and government effort of creating various online portals for tax collection, these 1/3 part of the population will not prefer online transaction for the payment of property tax. (District wise data can be found in the appendix)

- **Senior citizens**
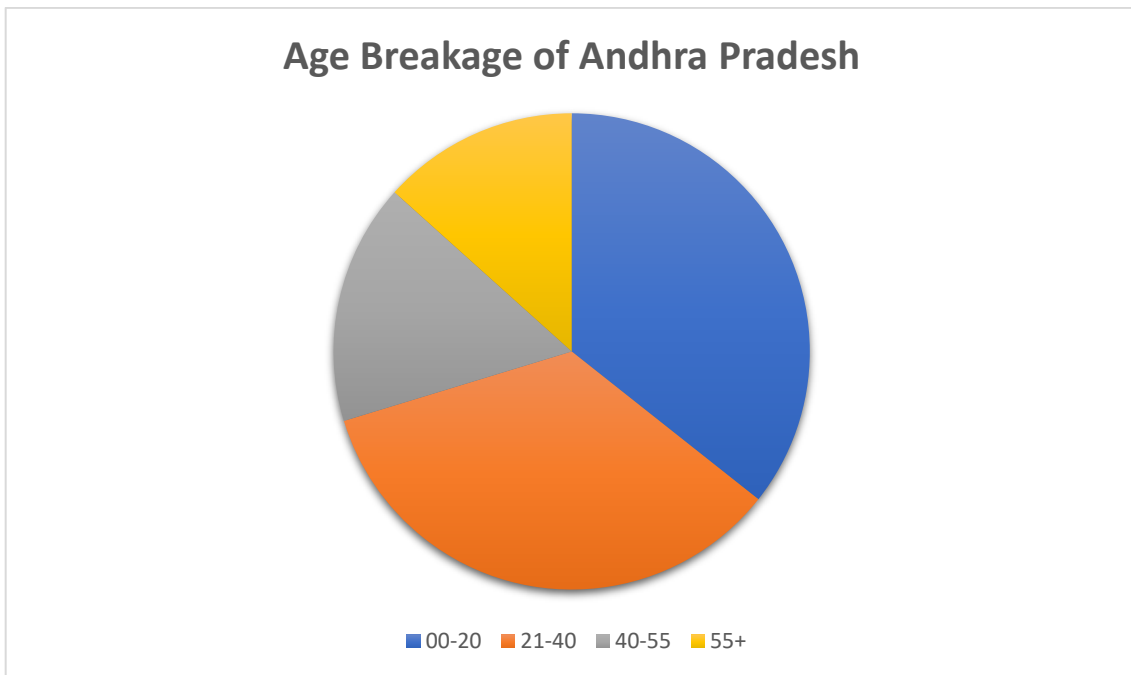


*Figure 3.13: (Age wise breakage of the population in the state of Andhra Pradesh)*

*Source: (Self-analysis)*

*(For detailed data find Exihibit D in Appendix)*

As it is quite evident for the pie chart above that a significant portion of the population of Andhra Pradesh is above the age of 55 years. These baby boomers are steady to adopt new technology so avoid online payments and due to age are reluctant to stand in line to pay taxes.

## 3.8 Best Practices to implement to Pay property tax

✓ **Incentives**

As we have already concluded with the help of data that providing little incentive to the taxpayer in the form of rebate or cash back is capable to increase the number of tax payer and tax collected significantly.
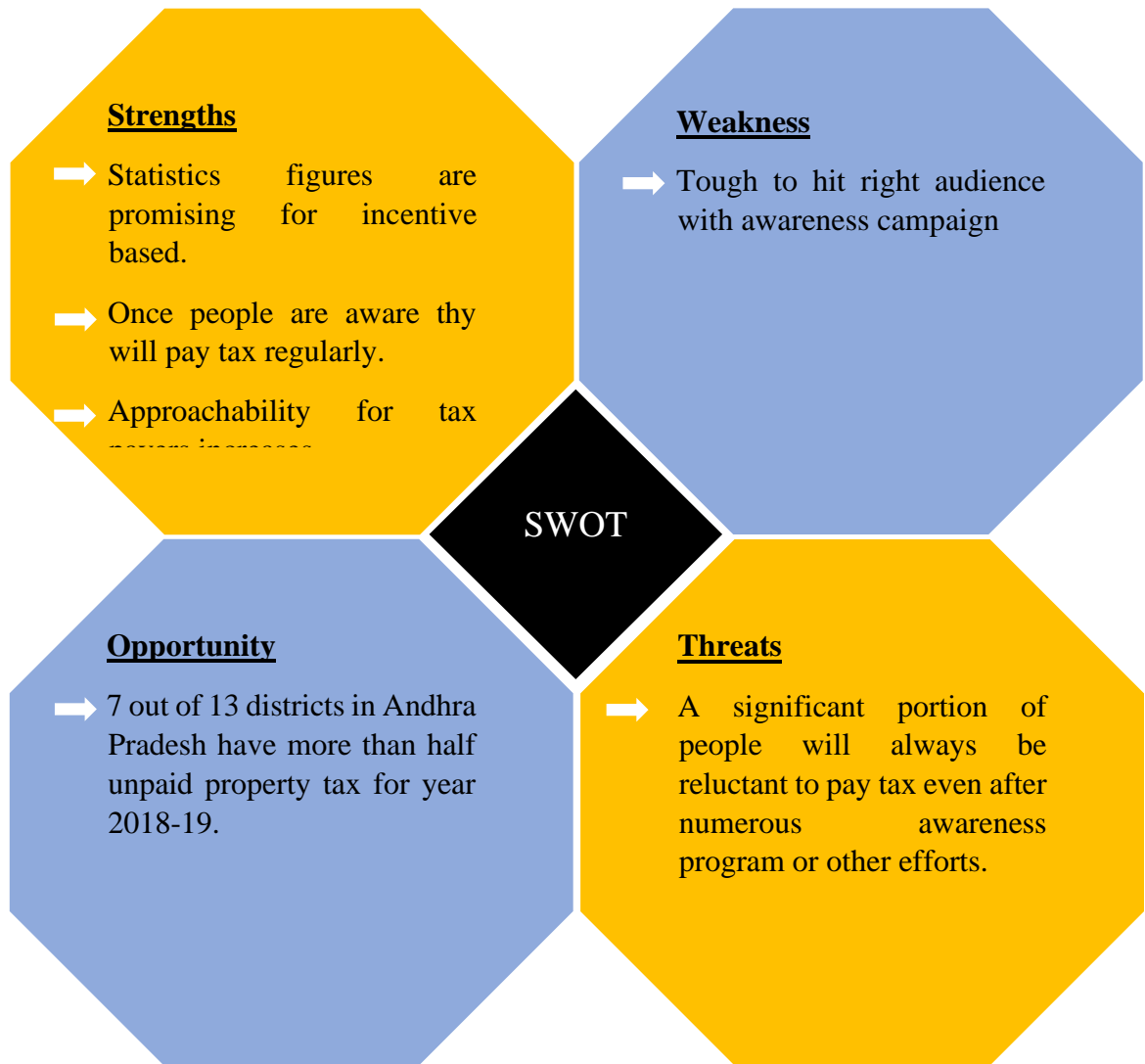
✓ **Tax Drive**

Property tax drive can be organised on high population density area of the district and collection centres can established to increase the approachability for tax payers which can see a remarkable increase in number of tax payers and eventually leading to increase in tax collection.

✓ **Awareness Campaign**

Awareness Campaign can be launched depending on the budget of the project at initial stages automated informational phone calls can be placed and if the budget permits door to door awareness program can be executed.

## 3.9 SWOT Analysis of government's initiative to increase tax collection revenue

**Strengths**

➡ Statistics figures are promising for incentive based.

➡ Once people are aware thy will pay tax regularly.

➡ Approachability for tax

**Weakness**

➡ Tough to hit right audience with awareness campaign

**SWOT**

**Opportunity**

➡ 7 out of 13 districts in Andhra Pradesh have more than half unpaid property tax for year 2018-19.

**Threats**

➡ A significant portion of people will always be reluctant to pay tax even after numerous awareness program or other efforts.

# 3.10 Conclusion and Recommendations

The research started with collecting information to understand what are the driving forces that motivate people to pay or not to pay property tax as well as what are the challenges faced by people in paying property tax and further information was collected with the help of primary research.

The main aim of the research was to understand perception of people towards property tax and analysing the behaviour and how people perceive payment of taxes, further to understand the current model of tax collection collection adopted by the government of Andhra Pradesh and its short cummings and comprehending the driving forces of people of the state to pay property tax or default them. Along with it identifying the challenges people are facing in paying pay property tax within deadlines.

In order to be able to suggest means to improve existing methodology adopted by state to collect property tax secondary research was performed to understood the formula for collection of property tax given by the government of India, methods of paying it and what are the challenges of each method, government initiatives to increase its revenue by providing various lucrative discounts based on age and time frame as well as penalizing for late payers and defaulters. With the help of tools such as R analysed the sentiments of the taxpayers who are paying property taxes online with the help of puraseva android application and help highlight the drawbacks of the application like application being buggy, force close on itself during performing various process, the reason could be poor compatibility with new android versions, grievance department is inefficient, some of the people still reluctant to pay this amount online due to trust issues, the application overall is very slow even on faster internet connections, various other problem faces by the user which include difficultly in downloading payment slip, difficulty in opening the payment gateway page, slow in payment, failed to load grievance tab in the application. Sentiment analysis and word cloud help us give a clear picture of negative sentiments among tax payers against the application and their level of lack of satisfaction. Further inspecting the reason of having a fifty percent default rate in property tax collection where most of the district of Andhra Pradesh follow the same trend and in some cases the defaulter rate even crosses two third of the total amount due. Primary research showcases some valuable information like driving forces for people paying property tax in the village, contribute to

the village maintenance fund. People feel good when they pay taxes and believe that they have contributed significantly in the maintenance of the village, people consider their duty to pay taxes. Some of the people feel it's their responsibility to pay taxes on time, consider important to contribute to the income for the nation, one of the major reason of people paying property tax is that villagers want to contribute to the government revenue which eventually spent in nation building, to have a developed area, people will pay taxes on time if they observe that the area they live in is getting better infrastructure facilities, some of them also believed that its their responsibility to pay taxes on time in return of the all facilities they are enjoying by the government., hindrance tax payers are facing in paying property tax, lack of awareness among the people for paying property tax, slow and tedious process to pay tax on online as well as offline portals, unresolved issues related to website and application, tax payers get discouraged when then see non taxpayer getting away without paying tax, expectation of people form paid tax money, technological advancement of the village, infrastructural development which include (Roads, school, hospital services, drinking water), quick Implementation of benefits from the government, improvement of water supply, they need a library in their area, regular water and electricity supply clean roads and streets, they need a cricket ground or park for amusement, waste collection program which collect household waste form each and every homes of the village.

Expectation of people form paid tax money are technological advancement of the village, Infrastructural development which include (Roads, school, hospital services, drinking water), Quick Implementation of benefits from the government, Improvement of water supply, They need a library in their area,        Regular water and electricity supply clean roads and streets, They need a cricket ground or park for amusement, Waste collection program which collect household waste form each and every homes of the village.

**Recommendations**

People are easily influenced by the development steps taken by the government in their vicinity at respective districts or villages so if the authority construct either library or well or just improving the condition of street light in other word if people see the change and improving infrastructure around them, then they are more inclined to pay taxes on time. Property tax collection revenue will increase and the defaulter will decrease.

Tax collection authority should provide some kind of incentive for paying taxes early in the form of discounts and impose heavy penalty for people who are paying after the deadline. Implementing this will surely see a rise in the amount of collected.

Regulated tax drives and awareness campaign can also boost the revenue generated by collecting taxes. And current model of house tax collection method can be implemented in collecting of water as well land taxes.

# 3.11 References

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# APPENDIX

**Exhibit A:**

| | | Property Tax Demanded and Collected for 2018-19 | | |
|---|---|---|---|---|
| S.No | District | Proportional Demand (01-Apr-2018 To 31-Mar-2019) (in Crs) | Cumulative Collections (01-Apr-2018 To 31-Mar-2019) (in Crs) | % Achievement (01-Apr-2018 To 31-Mar-2019) |
| 1 | ANANTAPUR | ₹ 110.94 | ₹ 54.44 | 0.491 |
| 2 | CHITTOOR | ₹ 174.45 | ₹ 82.16 | 0.471 |
| 3 | EAST GODAVARI | ₹ 202.94 | ₹ 103.08 | 0.508 |
| 4 | GUNTUR | ₹ 283.94 | ₹ 134.35 | 0.473 |
| 5 | KRISHNA | ₹ 316.11 | ₹ 131.68 | 0.417 |
| 6 | KURNOOL | ₹ 116.66 | ₹ 69.64 | 0.597 |
| 7 | PRAKASAM | ₹ 81.38 | ₹ 45.70 | 0.562 |
| 8 | SPR NELLORE | ₹ 129.58 | ₹ 61.63 | 0.476 |
| 9 | SRIKAKULAM | ₹ 39.25 | ₹ 20.16 | 0.514 |
| 10 | VISAKHAPATNAM | ₹ 937.84 | ₹ 308.21 | 0.329 |
| 11 | VIZIANAGARAM | ₹ 60.87 | ₹ 29.37 | 0.482 |
| 12 | WEST GODAVARI | ₹ 103.32 | ₹ 62.73 | 0.607 |
| 13 | YSR KADAPA | ₹ 95.92 | ₹ 55.27 | 0.576 |
| | Total | ₹ 2,653.20 | ₹ 1,158.41 | 43.66% |

## Exhibit B:

| Figures till due date(5th April) | 2017-18 | 2018-19 |
|---|---|---|
| Amount of Property tax(in Cr) | ₹ 32.20 | ₹ 47.24 |
| Number of people | 45,615 | 90,000 |

## Exhibit C:

| District wise literacy rate in AP | | |
|---|---|---|
| Sl. No. | District | Literacy |
| 1 | Anantapu | 63.57% |
| 2 | Chittoor | 71.53% |
| 3 | East Goda | 70.99% |
| 4 | Guntur | 67.40% |
| 5 | Krishna | 73.74% |
| 6 | Kurnool | 59.97% |
| 7 | Prakasam | 63.08% |
| 8 | Sri Potti S | 68.90% |
| 9 | Srikakular | 61.74% |
| 10 | Visakhapa | 66.91% |
| 11 | Vizianaga | 58.89% |
| 12 | West God | 74.63% |
| 13 | YSR | 67.30% |

## Exhibit D:

| Age Breakage of AP | | |
|---|---|---|
| Age | People | Share |
| 00-20 | 2,98,84,539 | 0.356578 |
| 21-40 | 2,90,22,840 | 0.346296 |
| 40-55 | 1,37,14,128 | 0.163635 |
| 55+ | 1,11,87,839 | 0.133492 |

## Questionnaire for the residents of the village.

Taxes is the major source of revenue for the panchayat the more the tax the better the budget they have to spend on the development of the village. So, in light of smoothing the process of tax collection and understand the challenges faced by the people in paying taxes there is a short survey.

1.      Name


2.      Village


3.      Mandal


4.      District


5.      Do you own residential property in the village?
a)      Yes
b)      No


6.      If yes, then what kind of
a)      Flat/apartment
b)      House

c)      Hut

d)      Others


7.      Are you satisfied with the Drainage system in your area?

a)      Yes

b)      No


8.      Are you satisfied with the street light in your area?

a)      Yes

b)      No


9.      Is there a library in your area?

a)      Yes

b)      No


10.     Do you pay your Panchayati tax?

a)      Yes

b)      No


11.     If yes, why?


12.     If no, why?


13.     How do you pay your Panchayati tax?

a)      Online

b)      Offline

c)      Others


14.     What are the challenges you face while paying Panchayati tax and any suggestion to rectify it?

15. What is your expectation with the local panchayat in respect of development?

16. What is your expectation regarding the development of the village?

17. What kind of development you want in the village?

**R Code for Sentiment analysis**

# libraries

```r
library(sentimentr) #Library for sentiment analysis

library(tm) #Text mining package

library(syuzhet) #To calculate emotions

library(RColorBrewer) #color
library(wordcloud)

library(dplyr) #Data manupulation

library(ggplot2) #For graphs
```

# Directory

```r
setwd("~/V square/SentimentAnalysis")
```
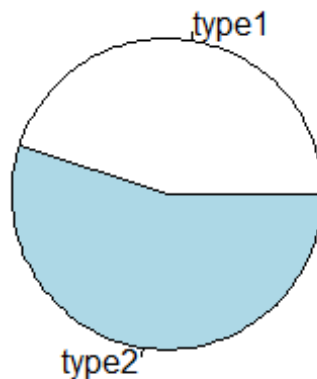
# Importing data

```r
data <- read.csv(file = "puraseva.csv",
        header = T,
        stringsAsFactors = F)
```

# Sentiment ratings

```r
sentiments <- sentiment_by(data$Review.Data)
data$sentiment_score <- round(sentiments$ave_sentiment,2)
s <- data$sentiment_score > 0
```

```r
s[s == T] <- "type1"
s[s == F] <- "type2"
pie(table(s))
```



```r
new_data <- data.frame(x = c(1:40), y = data$sentiment_score,mycolor = s )
new_data <- new_data[order(new_data$y,decreasing = T),]
new_data$x <- 1:40
```

# Plot for sentimets

```r
png("puraseva_sentiments.png")
ggplot(new_data, aes(x=x, y=y)) +
  geom_segment( aes(x=x, , y=0 , xend=x , yend=y , color=mycolor), size=1.3, alpha=0.9) +
   xlab("PlayStore Reviews") +
  ylab("Sentiments")
dev.off()
```

# Creating a spectrum for all the sentiments of the reviews

```r
cols <- c("red",
       "pink",
       "green",
       "orange",
       "yellow",
       "skyblue",
       "purple",
       "blue",
       "black",
       "grey")
sentimentsdf <- get_nrc_sentiment(data$Review.Data)
png("sentiment_bar.png")
barplot(colSums(sentimentsdf),
     main = "Sentiment Analysis of PlayStore reviews",
     col = cols,
     space = 0.05,
     horiz = F,
     angle = 5,
     cex.axis = 0.9,
     las = 2)
dev.off()

## png
##   2
```

# Creating a corpus and cleaning the data

```r
corpus <- Corpus ( VectorSource(data$Review.Data))
corpus <- tm_map ( corpus,tolower) #Changing text to lower case

corpus <- tm_map ( corpus,removeNumbers) #Removing numbers

corpus <- tm_map ( corpus,removePunctuation) #Removing punctuations
```

```r
corpus <- tm_map(corpus,removeWords,stopwords(kind = "en")) #Removing stop words

corpus <- tm_map(corpus,removeWords,c("app","tax")) #removing some common words

corpus <- tm_map(corpus,stemDocument) #Steming the documents

corpus <- tm_map(corpus,stripWhitespace) #removing white spaces
```

# Creating Document Term Matrix from corpus

```r
dtm <- as.matrix(DocumentTermMatrix(corpus))
dtm_df <- as.data.frame(as.matrix(dtm))
```

# WordCloud

```r
png("worldcloud.png")
wordcloud(words = names(dtm_df),
      freq = colSums(dtm_df))
dev.off()
```