Review Article

PUBLIC OPINION MINING FOR GOVERNMENT SCHEME ADVERTISEMENT

Prabhakar, E., *Parkavi, R., Sandhiya, N. and Ambika, M.

Department of Information Technology, Dr. Mahalingam College of Engineering and Technology, Coimbatore-642003, Tamilnadu, India

ARTICLE INFO	ABSTRACT
	Nowadays, central and state governments allocates/spends heavy budget for advertising schemes. It is also necessary to advertising new schemes in order to utilizing those schemes promptly and effectively by the people. But the main problem is our country has different kinds of educational background, habitation of people (rural/urban/tribal) and etc., hence the same type of advertisement for scheme will not be suitable for all kind of people. The advertisement will reach one sector of society, while the other sector may not know about that scheme or they will know latterly, because of the advertisement of the medium (Printed/Television/Social)In order to overcome this problem, in this paper concentrate on public opinion to find better best advertisement mechanism for the government schemes. This paper focuses on data mining techniques like association rules and correlation rules to mine public opinion. Here Association rule is used to find the interesting relationships in the data set that collected from the people.

INTRODUCTION

Public opinion mining for government scheme advertisementis about analyzing public opinion to find out how government schemes are reached public. The objective of this paper is to mine the public opinion for governmental scheme advertisement. Data mining technique called association rule is applied on public opinion, to find out the better advertisement tool. For this proposed system the data set are collected from people through Google form.

Related Works

E-District Portal for District Administration in West Bengal, India: A survey to identify important factors towards citizen's satisfaction

The aim is to explore different important factors in pilot district of West Bengal those are openly involved with the national's satisfaction and contributing to national's behavioral revolution towards acceptance of e-District project, which could be a message to take more corrective action to roll out e-District services in future.

E-government Maturity Models: A Comparative Study: The focus mainly on comparing 25 e-government maturity models and to find similarities and differences between them.

*Corresponding author: Parkavi, R.,
Department of Information Technology, Dr. Mahalingam College of Engineering and Technology, Coimbatore-642003, Tamilnadu, India.

Public Opinion Mining for Governmental Decisions

The goal is to be able to automatically identify the public stance against governmental decisions and thus be able to infer how the citizen's viewpoints may affect subsequent government actions.The main objective is to fold .the main objective is to fold and focus on understanding the citizen's opinion about e-government issues and on the exploitation of these opinions in subsequent governmental actions.

Government Public Relation and Social Media

It specifically focuses on how social media are used as public relations functions to serve democratic, participatory, and transparency models across a range of government contexts.

E-government Information Application: Vessels with Data mining Technology

It mainly concentrates on better use of the data stored in the database to establish an identifying model of smuggling and it also focuses applying the automatic identification mechanism, it is useful to reduce the probability of smuggling crime.

Data mining Solutions for Local Municipalities: It proposes data mining solutions for local municipalities to make their decision support mechanism easier. The intention is to acquiresmart solutions related to local government services from past data and to estimate the future activities.

Table 1. Relationship of Age and Clean India

No	Premises	Conclusion	Support	Confidence
1	Clean India=Television media[TV,Radio]	Age=25-35	0.051	0.018
2	Age=25-35	Clean India=Television media[TV,Radio]	0.051	0.019
3	Clean India=Printed media[newspaper, books..,]	Age=25-35	0.056	0.026
4	Age=25-35	Clean India=socialmedia=[fb,twitter,watsap	0.083	0.032
5	Clean India =Printed media[newspaper, books..,]	Age=25-35	0.079	0.037

Table 2. Relationship of Field of Education and Clean India

No	Premises	Conclusion	Support	Confidence
1	Field of Education=Others	Clean India=Television media[TV,Radio]	0.041	0.018
2	Clean India=Printed media[newspaper, books..,]	Field of Education =Arts and Science	0.041	0.029
3	Field of Education=Engineering	Clean India=social media=[fb,twitter,watsapp..]	0.036	0.036
4	Clean India =Printed media[newspaper, books..,]	Field of Education=Others	0.073	0.042
5	Field of Education=Medical	Clean India=Printed media[newspaper, books..,]	0.077	0.047

E-Governance in India: Problems and Accessibility

This paper focuses on current status of e-governance in India and some emerging areas where e-governance can play a vital role in upliftment of the society.

Predictive Analytics in the Public Sector: Using Data Mining to Assist Better Target Selection for Audit

This paper explains how the application of advanced analytics can add value to the work of Tax and Customs authorities, by leveraging present data in a robust and flexible way to reduce costs.

A Review on Contribution of Data mining ine-Governance Framework

To analyze the people opinion about the contribution of various social networking and online advertisement medium for government schemes and decisions to reach them.

Problem Definition

There are many schemes like digital India, clean India, etc., are introduced by government. Many advertisement tools like printed media, television media, social media, etc., are used by government to advertise the schemes. To identify the better advertisement tool is one of the major problems. But till this time, not many papers concentrated on addressing this issue. So this paper specifically focuses on this issue.

Proposed System

Analysis can be done on the basis of through which media the people get information about the governmental scheme.
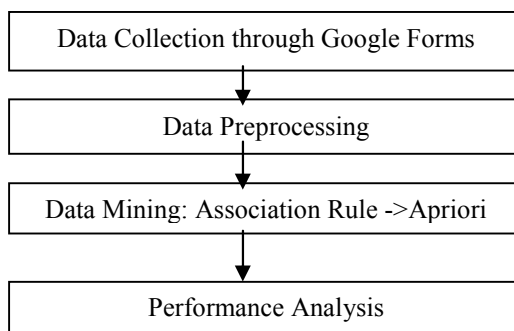

Figure 1. System Architecture

Based on the attributes constructed the data set is collected. Then Apriori algorithm is applied. This paper proposes the exploration of data mining techniques toward capturing the public's opinion about the advertisement medium that will contribute better to the governmental decisions and schemes and thus be able to infer the better advertisement medium to publish and advertise government actions and schemes. The objective is applying data mining in public opinion for government schemes.

Implementation

Modules

- Select attribute for data set collection
- Dataset Collection
- Applying Data Mining Algorithm
- Performance Analysis

Select attribute for data set collection

Attribute list 1

- Student/ employee/ others
- Name (optional)
- Gender
- Qualification
- Government school / Private school
- Field of Working
- Occupation
- Year of experience(optional)
- City/village
- Age
- Job government/ private

Attribute list 2

- Printed media(Newspaper/books/Notice)
- Television media(TV/Radio)
- Social media(Facebook/Twitter/Whatsapp)
- Online Advertisement
- Institution/Office
- Mobile message
- E-mails
- Online Advertisement
- Others(through friends /Relatives)

Attribute List 3

- Digital India
- Clean India
- Make In India
- National Food Security
- Association for Non-traditional Employment for Women (ANEW)
- Bank account
- Land acquisition in India
- Pradhan Mantri Jan – DhanYojana
- Pradhan MantriJeevanJyotiBimaYojana
- RTI(Right To Information)

Dataset collection

200 records are collected through Google forms from the people. Three set of attributes are collected.

- Basic details of the people
- Type of advertisement medium/tool that will be suitable for the people
- Government schemes

Rapid miner tool

There are plenty of open source data mining tools available to work on data mining related projects. For this project, Rapid miner tool is selected.Rapid Miner has better visualizations and user friendly options. Version 5.3.013 is used in this project.

Data Preprocessing

Data preprocessing is one of the important process in data mining. It is used to reduce wrong misleading results. Missing values in the data replaced and noisy data handled by noise filtering. But fortunately, there are not many missing values or noisy data in the collected data.

Data Mining – Association Rules

There are many data analysis techniques can be applied for this data set. But this paper is mainly focused on finding interesting relationships between the attributes. So the association rules are selected to find out the interesting relationships between attributes.

Apriori Algorithm

Even though many association rule algorithms are available, here apriori algorithm was used because of its simplicity. The frequent item sets determined by Apriority can be used to determine association rules which highlight general trends in the database.

Results and Performance Analysis

After applying the algorithm, the performance is analyzed based on the support and confidence value. The analysis is used to find out better advertisement tool is better.

Performance is analyzed on the basis of, which better advertisement medium that has contributed most for governmental schemes and decisions to reach the people. The results are shown in the following tables. In the results, *sup* represents support and *con* represents confidence.

Conclusion

A lot of government rules and advertisement of government schemes are currently in digital type. But extracting knowledge of data from that is a difficult task. It has complexness and variety, distinguishing those relevant to a selected context may be a non-trivial task. This paperconcentrated on mining public opinion for government scheme advertisement. This paper focused on data mining techniques like association rules to mine the public opinions. Here Association rule is used to find the interesting relationships in the data set that we collected from the people. From the analysis it is clear that age group, education qualifications and others factors highly influence the requirement of different type of advertisement medium.

REFERENCES

Alomari M. K., Sandhu, K., Woods, P, "Measuring Social Factors in E-government Adoption in the Hashemite Kingdom of Jordan", *International Journal of Digital Society (IJDS),* Volume 1, Issue 2, June, 2010.

Dwivedi, S. K., Bharti, A. K., "E-Governance in India – Problems and Acceptability", *Journal of Theoretical and Applied Information Technology,* 2010.

GozdeBakili, DeryaBirant, erolmutlu, AlpKut,Leventdenktals and Dish Cetin.(2012) "Data mining solutions for Local municipalities", *IEEE electronic journal of e-Government* 2012.

Guoshi Guan, Liuyang Zhou2, and Pengcheng Tang "Government Public Relations and Social Media: An Analysis of the Perceptions and Trends of Social Media Use at the Local Government", 2012.

Hanaa, M. Said1, Mohamed Hamdy, Rania El Gohary And Abdel-Badeeh M. Salem E-government Maturity Models: A Comparative Study *(International Journal of Software Engineering and Applications (IJSEA)*, Vol.5, No.3, May 2014.

Krishna Kumar Verma, NavitaShrivastava Exploring Role and Associated Challenges of Data Mining Technique and its Implementation in E-Governance Volume 4 Issue 8, August 2015.

Kumar Sanyal, Sudhangsu Das, SajalKantiBhadra, "E-District Portal for District Administration in West Bengal, India: A survey to identify important factors towards citizen's Satisfaction", Procedia Economics and Finance, 510 – 521, 2014.

Manas Kumar Sanyal, Sudhangsu Das, SajalKanti, Bhadra E-District Portal for District Administration in West Bengal, India: A survey to identify important factors towards citizen's satisfaction, *Electronic Journal of e-Government* Volume 8 Issue (2014).

Missy Graham and Elizabeth Johnson Avery, "Government Public Relations and Social Media: An Analysis of the Perceptions and Trends of Social Media Use at the Local Government", *Public Relations Journal*, Vol. 7, No. 4, 2013.

Mrs.Sangeetha, G, Dr. L. ManjunathaRao. "A Review on Contribution On E-governance Frame Work", *Journal of International Journal of Engineering Research and General Science*, 2015.

****