



Empowering Democracy: analysing open government data initiatives of India and America

Dr. Sohini Sengupta

Librarian, Seth Anandram Jaipuria College, Kolkata

Saheli Sengupta*

Librarian, Sreegopal Banerjee College, Mogra, Hoogly
(*Corresponding Author)

Abstract

In an era characterised by rapid technological advancements and the proliferation of digital platforms, the concept of open government data has emerged as a pivotal tool in promoting transparency, accountability, and citizen engagement. This paper presents a comparative analysis of open government data initiatives in India and America, focusing on their role in empowering democracy. Drawing upon a comprehensive review of scholarly literature, government portals this study examines the evolution, implementation, and impact of open government data initiatives in both countries. It identifies key drivers and barriers shaping the adoption and effectiveness of these initiatives. By critically evaluating the strengths and weaknesses of open government data initiatives in India and America, this paper seeks to provide insights into best practices and lessons learned for policymakers, practitioners, and researchers. Ultimately, this comparative analysis contributes to a deeper understanding of the role of open government data in advancing democratic governance and fostering citizen-centric governance models in diverse socio-political contexts.

Keywords: Citizen, Data format, Data sector, Democracy, Metadata, OGD portals, Open data, Open government data (OGD), Transparency

1. Introduction

In the digital age, the concept of democracy is evolving, with technology playing an increasingly significant role in empowering citizens and promoting transparency. One of the most promising avenues through which this evolution manifests is the utilisation of Open Government Data (OGD) initiatives. These initiatives aim to make government data accessible, transparent, and usable for citizens, fostering accountability and participation in democratic processes (Biswas, Brar, & Bhabal, 2022). India and America, as two of the world's largest

democracies, have embarked on significant journeys in leveraging OGD to enhance democratic governance. From transparency in government operations to citizen engagement and decision-making, OGD initiatives have emerged as crucial tools in shaping the future of democracy in both countries.

This study delves into a comparative analysis of OGD initiatives in India and America, exploring their scope, impact, challenges, and potential for enhancing democratic principles. By examining the strategies, implementations, and outcomes of OGD initiatives in these two diverse contexts, this study aims to derive insights into the



broader implications of data-driven governance for democratic practices worldwide.

Through this comparative study, it is sought to shed light on how OGD initiatives contribute to empowering citizens, improving governmental efficiency, and fostering trust between governments and their constituents. As we navigate the complexities of modern governance and strive to uphold the principles of democracy in an increasingly interconnected world, understanding the dynamics of OGD initiative (Afful-Dadzie & Afful-Dadzie, 2017; Alexopoulos, Loukis, Mouzakitis, Petychakis, & Charalabidis, 2018; Altayar, 2018; Attard, Orlandi, Scerri, & Auer, 2015; Bachtiar, Suhardi, & Muhamad, 2020; Barry & Bannister, 2014; Tamang, 2024) becomes imperative. By examining the experiences of India and America, this study aims to contribute to the ongoing discourse on harnessing the power of data for the greater good of democratic societies.

2. Literature review

A large amount of literature on several facets of OGD is being generated and published in different journals including online resources. According to Braunschweig et. al. (2012) just publishing the data on the web is not enough. To truly advance the open society, the publication platforms need to fulfil certain legal, administrative as well as technical necessities. Laboutkova (2015) stated that to make real development with open government data initiatives, it was crucial for national government policies and the role of government to be as strong as possible. According to Klein, Klein and Luciano (2018) several methodical researches have been done to observe widely discussed approaches, OGD concepts and their scopes, as well as their modifications over time. Chakraborty (2018) conducted an

empirical examination of the status of the OGD initiative in India, its scope, and how the programme ranks against other countries. India has taken proactive steps toward releasing government data to public domain. Biswas (2022) depicted in a study on OGD initiatives in SAARC countries, a comparative view in the current scenario to focus on transparency and openness based on various parameters like catalogue, API, licenses, file format, social media, download option, metadata, etc. Biswas and Chakraborty (2022) presented an analysis of OGD initiatives in India disclosed the various datasets available on India's OGD portal, its contributors, access facilities for citizens and accruing benefits.

3. Significance of the study

The significance of this study lies in its potential to shed light on the crucial role of open government data in enhancing democratic processes and governance practices in two diverse but influential nations. This study aims to analyse and compare the OGD initiatives of these two nations, examining their impact on democratic processes and citizen participation. By scrutinising key metrics, trends, and outcomes, it is aimed to uncover similarities, disparities, and best practices that can inform policy decisions and drive improvements in OGD implementation. The present study makes a genuine effort to focus on the efforts of both the countries' OGD portals to promote democratic principles.

4. Objectives

The objectives of this study are as follows:

- i. To evaluate the scope and effectiveness of Open Government Data (OGD) initiatives in India and America in promoting transparency, accountability, and



citizen engagement within democratic governance frameworks

- ii. To identify key similarities and differences in the strategies, implementations, and outcomes of OGD initiatives between India and America, highlighting best practices and challenges encountered in each context
- iii. To generate insights and recommendations for policymakers, practitioners, and civil society actors to strengthen and scale OGD initiatives, leveraging lessons learned from the experiences of India and America to inform future interventions in democratic governance worldwide
- iv. To contribute to advancing scholarly discourse and policy dialogue on the transformative potential of OGD in empowering democracy and promoting inclusive, participatory governance models.

5. Methodology

This study is based on various resources containing information on OGD, portals of both countries' OGDs and each subsection of Indian and American OGD portals covering datasets. Both the websites, <https://data.gov.in> and <https://data.gov> provide quantitative and qualitative data. The data has been collected upto 20 February, 2024. The data

used in this study is based on web analytics method. Finally, the collected data has been analysed with the help of Microsoft Office software.

6. India's OGD initiative

India's journey towards open governance gained significant momentum with the launch of the National Data Sharing and Accessibility Policy (NDSAP) in 2012. This policy aimed to provide a framework for proactive disclosure of government data and promote its accessibility to citizens. The establishment of data portals like data.gov.in facilitated the dissemination of a vast array of datasets across various sectors, ranging from demographics to agriculture, empowering citizens to make informed decisions and hold authorities accountable.

7. America's OGD initiative

The United States has been at the forefront of the open data movement, with initiatives like data.gov leading the way in democratising access to government information. Launched in 2009, data.gov serves as a central hub for federal datasets, providing citizens with a treasure trove of information on topics ranging from healthcare to education. The initiative not only promotes transparency but also fuels innovation, with developers and researchers harnessing data to drive social impact and economic growth and thereby strengthening the democratic principles of justice and equality.

8. Data analysis and findings

Different datasets available on OGD portals have been presented in table 1.

**Table 1: Different topic/sectors available in on OGD portals**

Sl. No.	India		America	
	Sectors	Dataset	Topic	Dataset
1	Health and Family welfare	323,646	Agriculture	4927
2	Agriculture	139,057	Business	3110
3	Census and surveys	36,343	Climate	23002
4	Water and sanitation	29,226	Consumer	872
5	Statistics	20,686	Eco System	1157
6	Education	15,869	Education	16702
7	Transport	3,733	Energy	6520
8	Finance	2,424	Finance	1939
9	Home Affairs and Enforcement	9,147	Health	8193
10	Water resources	5,783	Local Govt.	04
11	Governance and Administration	2,065	Manufacturing	1210
12	Animal Husbandry	1,983	Ocean	1 09916
13	Environment and forest	1,548	Public Safety	3144
14	Industries	1,790	Science and Research	23377
15	Power and Energy	1,498	Transportation	18674
16	Economy	1877	Water resources	22378
17	Infrastructure	620	Energy Conversion	162
18	Travel and Tourism	620		
19	Labour and Employment	386		
20	Commerce	358		
21	Food	1255		
22	Urban	214		
23	Parliament of India	490		
24	Information and Communication	339		
25	Art and Culture	286		
26	Housing	55		
27	Rural	250		
28	Social Development	149		
29	Biotechnology	69		
30	Defence	58		
31	Youth and Sports	198		
32	Science and Technology	235		
33	Mining	101		
34	Information and Broadcasting	69		
35	Judiciary	46		
36	Foreign Affairs	11		

In table 1 government data sites of India and America provide data on various topics. In India, it is named as sectors whereas in America it is named as topics. But they are basically the same. In the case of data.gov.in (India), they provide data on 36 (thirty-six) groups like health, education, roads,

sanitation, etc. while data.gov (USA) provides 17 (seventeen) topics. From this table, it is clear that both the countries' registered data government sites are providing related kinds of information for their individual countries may be under different names.



This study highlights the democratic features of India and America which are reflected on their respective OGD portals.

Table 2: Democratic features found on India's OGD portal

Theme/ Topic	Datasets	Views	Download	API
Elections and Politics	47	1457	2061	08
Government Spending/ Finance	417	9 19 935	2 85 582	142
Legislative Proceedings	490	3 44 272	1 91 967	30
Laws and Regulations	54	2 75 215	18 703	29
Judiciary	05	4000	2880	05
Social Welfare Programmes	78	40 230	5 847	12
Citizen Services	2388	17 71 378	2 57 202	168
Environmental Conservation	931	2 36 673	1 38 447	703
Education and Literacy/	9692	518453	1,48,571	14181
Women Empowerment	7209	3 46 344	1, 00, 967	3196
Press	16	48	22	06
Human Rights	37	919	1111	19
Total	21 364	5 24 877	1 54 645	18 499

Table 2 presents some data related to democratic features of India which highlight how OGD is helping to reflect the democracy of India.

Table 3: Democratic features found on America's OGD portal

Theme/ Topic	Datasets	Views
Elections and Politics	3005	1304
Government Spending/ Finance	1,940	4865
Legislative Proceedings	12790	539
Laws and Regulations	5003	8479
Judiciary	3	No Views
Social Welfare Programs	1,209	1827
Citizen Services	185	624
Environmental Conservation	1,798	795
Education and Literacy	16,065	9911
Women Empowerment	27	No Views
Press	439	235
Human Rights	599	813
Total	43 063	29 392

Table 3 presents some data related to democratic features of America which highlight how OGD is helping to reflect the democracy of America.

The detailed analysis of table 2 and 3 reveals that:

Elections and politics

The importance of elections and politics in highlighting democratic principles cannot be overstated. Elections serve as a cornerstone of democracy, providing citizens with the opportunity to participate in governance,



exercise their right to vote, and hold their representatives accountable. India's OGD portal exhibits a commitment to elections and politics with 47 datasets available, indicating a recognition of the importance of providing access to data related to electoral processes and political activities. The moderate number of views (1457) and downloads (2061) suggests some level of citizen engagement with electoral and political data on the portal, although further efforts may be needed to enhance awareness and utilisation. Additionally, the availability of 8 APIs underscores the government's effort to promote data accessibility and facilitate the development of innovative solutions for electoral monitoring and political analysis. Conversely, America's OGD portal offers a significantly higher number of elections and politics-related datasets, totaling 3005. This demonstrates a stronger commitment to transparency and openness in electoral and political processes, potentially fostering a more robust environment for democratic participation and political accountability. The higher number of views (1304) indicates some level of citizen engagement with electoral and political data, although similar to India, further efforts may be needed to enhance awareness and utilisation. However, similar to India, the absence of information on downloads and APIs limit a comprehensive assessment of citizen involvement and utilisation of electoral and political data.

Government spending

Starting with the dataset availability, India's OGD portal offers a substantial number of 417 datasets related to Government spending/finance, indicating a commitment to transparency and accountability in financial matters. On the other hand, America's OGD portal hosts 1,940 datasets in the same category, showcasing a more extensive repository of financial data. This suggests that both countries recognise

the importance of providing access to financial information regarding government budgets, expenditures, and procurement contracts which can be used to track how public funds are allocated, monitor spending on key sectors like healthcare and education, and identify instances of financial mismanagement or corruption. This is crucial for fostering transparency and enabling informed decision-making in democratic governance. In terms of views, India's Government spending/finance datasets have garnered a significant number of views, totaling 9,19,935. This indicates a considerable level of citizen interest and engagement with financial data provided on the OGD portal, reflecting an active participation in monitoring government spending and financial activities. On the other hand, America's OGD portal records a smaller number of views, totaling 4,865, despite hosting a larger number of datasets. This could imply either a lower level of citizen awareness or interest in financial data or possibly a lack of effective promotion and outreach efforts by the government.

Legislative proceedings

As part of India's commitment to transparency and accountability in legislative activities, the OGD portal offers 490 datasets related to legislative proceedings. On the contrary, America's OGD portal hosts a significantly larger number of datasets, totaling 12,790, in the same category. This stark contrast suggests that while both countries recognise the importance of providing access to legislative information related to open access to transcripts of parliamentary debates, legislative bills, and committee reports, America has a much more extensive repository, potentially indicating a higher level of commitment to transparency in legislative proceedings. In terms of views, India's legislative proceedings datasets have garnered a notable number of views, totaling



3,44,272 along with 1,91,967 downloads. This indicates a considerable level of citizen interest and engagement with legislative data provided on the OGD portal, reflecting active participation in monitoring legislative activities. On the other hand, America's OGD portal records a much lower number of views, totaling only 539.

Social welfare programmes

India's OGD portal presents a modest collection of 78 datasets about social welfare programmes, demonstrating a dedication to transparency and accountability within social welfare initiatives. In contrast, America's OGD portal boasts a significantly larger dataset count, totaling 1,209 entries in the same category. This contrast suggests that while both nations acknowledge the significance of granting access to social welfare data, America maintains a more expansive repository, potentially signifying a greater commitment to transparency within its social welfare programmes. India's social welfare programmes datasets have received 40,230 views along with 5847 downloads. The OGD portal is attracting a considerable amount of citizen engagement and interest in social welfare data, indicating an active role in monitoring social welfare programmes. Compared to the OGD portal, America's registered only 1,827 views.

Citizen services

India's OGD portal offers an extensive collection of 2,388 datasets related to citizen services, indicating a strong commitment to transparency, accountability, and citizen engagement in public service delivery like providing data on public transportation systems, including schedules, routes, and performance metrics. Conversely, America's OGD portal hosts a much smaller number of datasets, totaling 185, in the same category. This significant difference in dataset availability suggests that while both countries

acknowledge the importance of providing access to citizen services information, India prioritises a more comprehensive approach to transparency and citizen empowerment in service provision. Concerning views, India's citizen services datasets have gathered a substantial number of views, totaling 17,71,378 along with 2,57,202 downloads. Conversely, America's OGD portal records a lower number of views, totaling only 624.

Environmental conservation

Environmental conservation is of paramount importance in highlighting democratic principles as it directly affects the well-being and rights of citizens, both present and future generations. India's OGD portal exhibits a robust commitment to environmental conservation with 931 datasets available. With 2,36,673 views and 1,38,447 downloads, there's clear evidence of citizen interest and engagement with environmental data, reflecting an informed and empowered populace actively involved in environmental stewardship. Furthermore, the availability of 703 APIs underscores the government's proactive approach to promoting data accessibility and facilitating the development of innovative solutions for environmental challenges. Conversely, while America's OGD portal hosts a larger number of datasets at 1,798, the lower views (795) indicate potentially less citizen engagement with environmental data compared to India.

Education and literacy

Education and literacy play a crucial role in highlighting democratic principles as they empower citizens to participate fully in democratic processes, exercise their rights, and make informed decisions. India's OGD portal exhibits a strong commitment to education and literacy with 9,692 datasets available. The high number of views (518,453) and downloads (148,571) suggests significant citizen interest and engagement



with educational data, reflecting an informed and empowered populace actively involved in shaping education policies and initiatives. Additionally, the availability of 14,181 APIs underscores the government's proactive approach to promoting data accessibility and facilitating the development of innovative solutions for education-related challenges. Conversely, while America's OGD portal hosts a larger number of datasets at 16,065, the lower views (9,911) indicate potentially less citizen engagement with educational data compared to India.

Women empowerment

Women empowerment is crucial for highlighting democratic principles as it promotes equality, inclusivity, and active participation of women in decision-making processes, thereby strengthening democracy. India's OGD portal exhibits a strong commitment to women's empowerment with 7,209 datasets available. The high number of views (346,344) and downloads (100,967) suggests significant citizen interest and engagement with women empowerment-related data, reflecting an informed and empowered populace actively involved in advocating for gender equality and women's rights. Additionally, the availability of 3,196 APIs underscores the government's proactive approach to promoting data accessibility and facilitating the development of innovative solutions for women empowerment. Conversely, America's OGD portal exhibits a significant gap in providing data related to women's empowerment, with only 27 datasets available and no views recorded. This signifies a potential lack of emphasis or prioritisation of women's empowerment in the context of the OGD portal.

Press

The press plays a fundamental role in highlighting democratic principles by serving as a watchdog, providing citizens with

accurate information, fostering public discourse, and holding government accountable. India's OGD portal exhibits a limited commitment to press-related data with only 16 datasets available. This indicates a potential gap in providing comprehensive access to data related to the press, which may hinder transparency and accountability in media governance. The low number of views (48) and downloads (22) further suggests a lack of citizen engagement with press-related data on the OGD portal, reflecting a potential limitation in promoting public discourse and awareness about press freedom and media issues. Additionally, the availability of only 6 APIs underscores the limited accessibility and utilisation of press-related data for innovation and development of media-related solutions. Conversely, America's OGD portal offers a significantly higher number of press-related datasets, totaling 439. This demonstrates a greater commitment to transparency and openness in media governance, potentially fostering a more robust environment for press freedom and public discourse. The higher number of views (235) indicates some level of citizen engagement with press-related data, although further efforts may be needed to enhance awareness and utilisation. However, similar to India, the absence of information on downloads and APIs limit a comprehensive assessment of citizen involvement and utilisation of press-related data.

Human rights

The importance of human rights in highlighting democratic principles cannot be overstated. Human rights form the cornerstone of democracy, ensuring that every individual is treated with dignity, equality, and fairness. India's OGD portal exhibits a commitment to human rights with 37 datasets available, indicating a recognition of the importance of providing access to data related to human rights issues. The moderate number of views (919) and downloads (1,111)



suggests some level of citizen engagement with human rights-related data on the portal, although further efforts may be needed to enhance awareness and utilisation. Additionally, the availability of 19 APIs underscores the government's effort to promote data accessibility and facilitate the development of innovative solutions for human rights advocacy and monitoring. On the other hand, America's OGD portal offers a higher number of human rights-related datasets, totaling 599. This demonstrates a stronger commitment to transparency and

openness in addressing human rights issues, potentially fostering a more robust environment for human rights advocacy and monitoring. The higher number of views (813) indicates some level of citizen engagement with human rights-related data, although similar to India, further efforts may be needed to enhance awareness and utilisation. However, similar to India, the absence of information on downloads and APIs limit a comprehensive assessment of citizen involvement and utilisation of human rights-related data.

Table 4: Most commonly used formats by Indian and American open data government portals

Sl. No.	Open Data Government Format	India	America
1.	CSV	371679	24771
2.	JSON	106591	15899
3.	XML	273	143910
4.	HTML	×	101281
5.	ZIP	39	94653
6.	PDF	×	37259
7.	KML	26	9190
8.	ODS	1	×
9.	WMS	86	9997
10	Excel	177	7702
11.	Esri REST	×	17448

Providing data in open and easily accessible formats promotes inclusivity and ensures that a wider range of users can engage with the data, fostering democratic principles of transparency and participation. It is observed that both portals have a significant amount of CSV, JSON and XML file formats.

In essence, while the choice of file formats may not directly relate to democratic principles, it indirectly impacts principles such as accessibility, transparency, interoperability, and data preservation, which are foundational to democratic governance and citizen engagement.

**Table 5: Metadata for dataset available on OGD portals**

India (data.gov.in)	America (data.gov)
1. Title	1. Title
2. Download	2. Resource Type
3. Dataset Frequency	3. Metadata created data
4. Reference URLs	4. Metadata updated date
5. Description	5. Publisher
6. Keywords	6. Unique Identifier
7. Contributor	7. Maintainer
8. Sectors and Sub Sector	8. Date First Published
9. Date released	9. Date Last Modified
10. Group name	10. Category
11. Asset Jurisdiction	11. Public Access Level
12. Category	12. Bureau Code
13. Access Method	13. Metadata Context
14. Access type	14. Metadata Catalog ID
15. App Type	15. Schema Version
16. Note	16. Catalog Described by
17. Granularity	17. Data Quality
17. NDSAP Policy Compliance	18. Data Dictionary
	19. Harvest Object Id
	20. Harvest Source Id
	21. Harvest Source Title
	22. Homepage URL
	23. Language
	24. Date Last Update
	25. Programme
	26. Source Data JSON Identifier
	27. Source Hash
	28. Source Schema Version
	29. Spatial
	30. Downloads and Resources
	31. License

It is quite pertinent from the above table 5 that the metadata are not the same for both the data government sites. It differs from government to government sites. As the preferences are different from one government to another. According to the need for different data government sites metadata for datasets varied from one site to another. Whatever it may be, there is a significant relationship between the metadata of datasets available on

OGD portals and the promotion of democratic principles. Metadata, which provides information about the datasets such as their title, description, source, format, and licensing terms, plays a crucial role in ensuring transparency, accountability, accessibility, interoperability and usability of the data

9. Discussions

The comparison of Open Government



Data (OGD) portals in India and America reveals differing approaches to addressing democratic features. India's OGD portal demonstrates a significant effort to provide access to democratic data with 21,364 datasets, accompanied by substantial user engagement, evidenced by 5,24,877 views and 1,54,645 downloads, as well as a noteworthy provision of 18,499 APIs. Conversely, America's portal presents a larger dataset count at 43,063, but with comparatively lower user engagement and a lack of download and API data. The file format distribution also varies, with India primarily offering CSV and JSON files, while America includes XML and HTML files. These distinctions suggest that while both countries prioritise data accessibility, India's OGD portal appears to excel in user engagement and API provision, whereas America's portal could enhance metadata and provide more information on downloads and APIs to bolster democratic participation and transparency.

10. Conclusion

In conclusion, the analysis of Open Government Data (OGD) initiatives in India and America underscores the importance of data accessibility, user engagement, and transparency in empowering democracy. While both countries prioritise providing access to democratic data through their OGD portals, India's efforts stand out for their robust user engagement, evidenced by high views, downloads, and API provision. Conversely, America's portal, despite hosting a larger dataset count, shows comparatively lower user engagement and lacks download, and API information. These findings highlight the need for continual improvement in OGD initiatives to enhance democratic participation and transparency. America can benefit from adopting strategies employed by India to bolster user engagement and provide more detailed downloads and API

information, ultimately advancing the democratic principles of openness, accountability, and citizen empowerment.

11. Suggestions

While analysing the OGD data available on Indian and American OGD portals some lacunas are noted. Besides improved user engagement strategies, enhanced metadata provision, greater transparency on downloads, APIs and diverse file format support, both countries should also incorporate on their respective OGD portal the following aspects:

Community engagement and feedback mechanisms: Establishing community engagement platforms and feedback mechanisms can help OGD portals in both countries understand user needs, preferences, and challenges better. This can include online forums, user surveys, and feedback forms to gather input from stakeholders and incorporate it into future portal improvements.

Collaboration with civil society and academia: Collaborating with civil society organisations, academia, and other stakeholders can foster innovation, promote data-driven research, and address societal challenges more effectively. Both India and America can encourage partnerships and collaborations to leverage the expertise and resources of external stakeholders in enhancing the functionality and impact of their OGD portals.

Regular monitoring and evaluation: Implementing regular monitoring and evaluation mechanisms can help assess the effectiveness and impact of OGD portals over time. This includes tracking key performance indicators such as user engagement metrics, dataset usage statistics, and user satisfaction surveys to identify areas for improvement and guide future enhancements.



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