



A CRITICAL DISCOURSE ANALYSIS OF GREEN REPORTING ON E-WASTE OF INDIAN NEWS APP

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ABSTRACT

Background: Electronic waste is rapidly becoming a pressing global problem as it causes various environmental and health hazards. The role of digital news apps in shaping public discourses and perspectives concerning E-Waste cannot be underestimated, as a rapid shift is being observed in the news consumption patterns of diverse audiences. Therefore, the current research paper has attempted to carry out a Critical Discourse Analysis of news articles on E-Waste published by the Times of India and The Hindu news App.

Materials and Methods: The current research has adopted a mixed-method approach. The textual analysis (Quantitative) for this research has been carried out using AntConc. software, and Van Dijk's (1996) structural model (Macrostructure and Superstructure) has been used as the basis for structure analysis (Qualitative).

Results: The textual analysis of the news articles revealed that E-Waste, Electronic, Disposal, Collection, Management, Recycling, Drive, Processing, and Awareness are some frequently used keywords in news articles. Moreover, the structure analysis revealed that awareness campaigns (29%), disposal (25%), Recycling (25%), and management policy (13%) are the dominant themes, and government and private companies are the major actors represented in the news articles on E-Waste.

Conclusion: This research concludes that the online news apps play a vital role in shaping public understanding of E-Waste. The dominant focus of the news coverage remained on awareness, recycling, disposal, and management, with government and private companies as the key actors. The media framing largely shapes how the public perceives E-Waste and related accountability.

Key Word: Critical Discourse Analysis, E-Waste, News app, Structure analysis, Textual analysis

I. Introduction

This paper presents an analysis of news stories on the growing threat of electronic waste (E-Waste) to the environment and subsequently to humans. Today, electronic devices have become an integral part of various facets of

human lives. However, the clamour for various electronic gadgets such as smartphones and laptops (Ghulam, S.T., and Abushammala, H. 2023), the rapidly growing electronic industry (Danish, A. et al., 2023), and consumer behavior (Kankanamge, C.E. 2023) have made



E-Waste the fastest-growing solid waste stream in the industrialized world. The question of how once so expensive and desirable products become discarded junk makes this topic an interesting one to study. E-waste refers to discarded electronic devices and functional and non-functional equipment that are no longer in use and have been disposed of by their users (Kaur, B., Kaur, K., and Kaur, H. 2023). The rising population, increase in purchasing power, and higher demands for electronic products, complemented with illegal dumping and fewer treatment options, have made India the third largest source of E-Waste in the world (Arya, S., and Kumar, S. 2020).

Green reporting is crucial for people to understand prevailing environmental threats and prioritize them. The phenomenon of "green reporting" refers to the media's role in covering environmental issues and sustainability topics. Green reporting plays a crucial role in shaping public awareness, influencing policy decisions, and fostering environmental consciousness (Rahman, Md. M., and Rahman, M.S. 2020). A review of previous research suggests that a lack of understanding regarding scientific disposal techniques and poor awareness of initiatives taken by government and private entities is a major cause of improper disposal of E-Waste (Kankanamge, C.E. 2023). Digital news app plays a pivotal role in closing this gap and shaping the public discourse, perception, and attitude as these platforms are becoming a primary source of information for a diverse

audience. However, the news articles published by these platforms are subject to scrutiny as they may be influenced by various factors, such as political, ideological, socio-economic, etc. This study employs both quantitative (Textual analysis) and qualitative methods (using Van Dijk's structural model, 1996) to investigate the extent to which green reporting on e-waste is addressed in news stories of top English news apps, but the depth of the coverage varies widely.

A Critical Discourse Analysis is a multi-disciplinary field that seeks to understand how language is used to construct and maintain social relationships, power dynamics, and ideologies (Dijk, V. 1993). Critical discourse analysts analyze the semantic, lexical, and grammatical features of spoken, written, and sign language to explain the meaning beyond what is stated. Several previous researchers have applied different frameworks of Critical Discourse Analysis for the analysis of news articles on various topics (Lin, Y. 2023; Wang, G., and Huan, C. 2023; Bunnag, O., and Chaemsaitong, K. 2023; Shimoni, S. 2023; Sundberg, F., Dahlborg, E., and Lindahl, B. 2023). Moreover, various researchers have also carried out a Critical Discourse Analysis specifically for online news (Anggraeni, Y., Citraresmana, E., and Koeshandoyo, E. 2022; Nurhasanah, I.S., and Sogiri, A. 2022; Wang, H. 2015). However, an apparent knowledge gap concerning the analysis of green reporting on the E-Waste of the Indian English News App has been found in the existing literature.



Therefore, the current study is a valuable exercise to uncover the underlying textual dynamics and influences that shape how this critical environmental issue is presented and understood in the digital media landscape. The current study will shed light on the context in which keywords are used in the news articles, the dominant themes in the news articles, and, more importantly, the macro-structure analysis and Super-structure analysis of the news articles on E-Waste. Hence, this study specifically aims to identify the rank and frequency of keywords used in E-Waste news coverage and examine the contexts in which these keywords have been used. Along with this, the study also aims to identify the dominant themes and actors involved in the media coverage, and to analyze the schematic structure of the news articles on E-Waste. Collectively, this research aims to develop a comprehensive understanding of how news coverage on E-Waste is framed, narrated, and constructed in media landscape.

II. Material and Methods

In this research, we have applied a mixed-method approach to carry out a critical discourse analysis of news reports on E-Waste of the top two Indian English news apps. In order to identify these apps, data has been extracted from the Google Play Store. Google Play Store uses a similar web algorithm to calculate apps' ranking. Categories on the

similar web were selected as India, News & Magazines, and top free, and results were sorted by usage ratings. Usage ratings go beyond ranking news apps based on reach and consider the daily active users and the number of individual user engagements with a particular app. As a result, The Times of India (TOI) and The Hindu were identified as the top two Indian English news apps.

Further, news reports were manually sorted from both apps by searching for keywords E-Waste or electronic waste. Recent News reports published from January 1, 2023, to October 1, 2023, were only considered for this study. We found 149 relevant articles in TOI and 21 articles in The Hindu. Thereafter, we applied a systematic random sampling to select 12 articles from each app for further analysis.

Textual analysis of these articles was carried out using the AntConc software, and a thorough study of each article was made for the structure analysis. Teun A. Van Dijk's structure, design (macrostructure and superstructure) was used as the basis for analysis. Macrostructure deals with the global meaning of the text and denotes the core idea presented by the text as a whole, whereas the superstructure emphasizes the flow in which texts are arranged from beginning to end (Huda, M.F.N., Hidayat, D., and Alek, A. 2020).



III. Results and Discussion

Textual analysis

Table no 1 Rank and Frequency of Keywords Used in News Articles on E-Waste

S.No.	Keywords	Rank	Frequency
1.	E-Waste	6	178
2.	Electronic	24	43
3.	Disposal	26	38
4.	Collection	28	31
5.	Management	28	31
6.	Recycling	30	29
7.	Drive	33	27
8.	Processing	49	17
9.	Awareness	56	16

Keywords in context (KWIC)

Table no 2 Frequency of Context in which Keywords are used in News Articles

S.No.	Keywords	Context
1.	E-Waste	Management (16), collection (7), disposal (6), generated (4), recycling (4), processing (3), awareness (2)
2.	Electronic	Waste (12), equipment (6), devices (5)
3.	Disposal	E-Waste (16), safe/proper/scientific (10), facility (4)
4.	Collection	Drive/campaign (10), centres/points (4), e-waste (3)
5.	Management	Policy/rules (10), agency/committee (2),
6.	Recycling	E-Waste (8), Facility (5)
7.	Drive	Collection (8), objective (6)
8.	Processing	Plant/facility (8)
9.	Awareness	Hazards/ bad impacts (5), campaign (4), policy (2)

Interpretation

The textual analysis of news articles reveals that most articles on E-Waste in the top two Indian English news apps have published news regarding the disposal, collection, and management of E-Waste. The appearance of the word “e-waste” in management, collection, disposal contexts highlights how the news coverage framed the issues mainly around its handling and regulation. Moreover, they have also emphasized the campaigns/drives launched for the collection and awareness in the context of hazards, bad impacts. Also, the objectives of these drives were clearly stated in most of the articles. While the references to processing plants and recycling facilities show the infrastructural aspects. The

analysis discloses that the discourse makers have also focused on the safe and scientific disposal of E-waste. Overall, the news coverage by The Hindu and The Times of India stresses the practical management of e-waste.

Macrostructure analysis

Dominant themes in the news articles on E-Waste

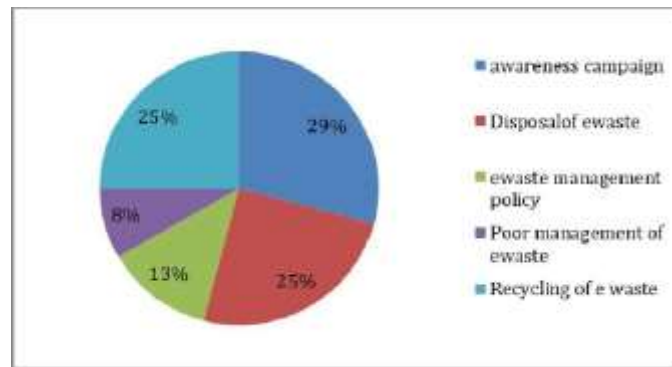
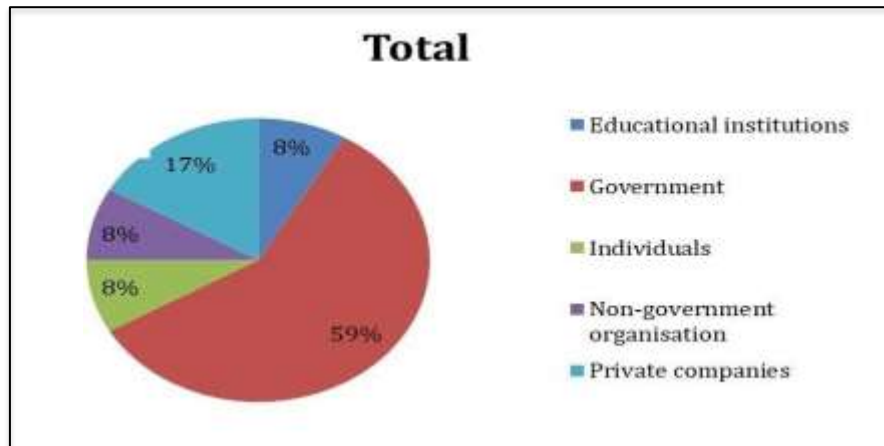


Figure no 1 Percentage representation of dominant theme in news articles on E-Waste

The macrostructure analysis reveals that articles on E-Waste have mostly focused on the news related to awareness campaigns (9%), disposal (25%), and recycling (25%), reflecting the ideological underpinnings of how environmental issues are covered by the media. This large share of coverage devoted to awareness campaigns shows how the responsibility of managing e-waste is often shifted to the public through calls for behaviour change. However, only 13% of news coverage focuses on e-waste management policy, and just 8% acknowledge its mismanagement. This disproportion in coverage between awareness campaigns and mismanagement reveals the media's tendency to subtly place the burden of action on citizens and an ideological proclivity to foreground solutions and official coverage while often marginalizing critical scrutiny of systemic and policy failures. All the articles that have even discussed the mismanagement related to E-Waste have all been published by The Hindu.



Actors in the news articles on E-Waste

Figure no 2 Percentage representations of different actors in news articles on E-Waste

The analysis further reveals that the news apps have widely covered the efforts made by the government (59%), positioning the government as central and custodian of e-waste management. After the government, private companies (17%) emerge as secondary actors in the management, pointing out a possible corporate-state partnership in e-waste management. In contrast, other actors including the educational institutions, non-government organizations, and individuals, together account (24%), which highlights their symbolic inclusion but limited actual contribution in shaping narratives. The representation of actors clearly demonstrates a top-down power relation where the state is framed as the primary problem-solver, private companies as their supportive pillars, while the grassroots efforts are sidelined. The articles related to educational institutions were published by TOI, whereas the articles related to individual initiatives were published by The Hindu.

Superstructure analysis

Table no 3 Schematic Structure/Flow of the News Articles on E-Waste

S.No.	News apps	Headline	Opening	Content	Closing
1.	TOI	Why waste in India is a multi-billion dollar goldmine Sep 29	Creating curiosity, need assessment	Corroboration through reports and sources	Justification through examples
2.	TOI	DAVV forms panel for proper disposal of e-waste June 30	Purpose of the new committee	Actions taken and planned	Appreciation for the effort



3.	TOI	Repair & recycle, urges new e-waste management policy June 6	Fostering urgency, need assessment	Policy description	Benefit for individuals
4.	TOI	Raj govt to unveil policy for e-waste mgmt on June 5 May 30	need assessment	Policy description	Benefits of new policy
5.	TOI	MCD's e-waste disposal facility finds many takers May 8	Forging positivity	Process description	Benefits for individuals
6.	TOI	Integrated e-waste recycling unit soon in Hyderabad April 15	New initiative	Process description	Purpose
7.	TOI	Bhubaneswar Municipal Corporation to increase awareness on e-waste rules in capital April 1	Effort by government	Policy description	Hope for better outcomes
8.	TOI	E-waste disposal likely to go up 18% March 27	Improved situation	actions	Efforts underway
9.	TOI	Greater Noida to hire firm to dispose of e- waste pile March 21	Effort planned	Process description	Shows the seriousness of government
10	TOI	St Agnes College students collect two tonnes of e-waste Feb 26	Objective of drive	Process description	Creating awareness
11	TOI	Drive in Madurai to create awareness on e-waste, collect it Jan 28	Objective of drive	Process description	Other efforts being made
12	TOI	F-South ward to clean up its e-waste, plans plant at Mumbai's Sewri Jan 21	Newness, future plans	Process description	Reference to policy
13	The Hindu	Unpacking the new set of e-waste rules Sept 10	Highlighting the problem	Tracing policy history	Critically analyzing the new policy



14	The Hindu	Reckless dumping of e-waste continues as Kozhikode lacks system to manage refuse Aug 30	Highlighting the problem,	blame on government services & Plumbing into the problem	Perspectives of different stakeholders involved
15	The Hindu	Poor segregation hampers e-waste recycling in Tiruchi August 28	Highlighting the problem	Blame on individuals/ residents	Dissatisfactory efforts being made
16	The Hindu	Mobile phone retailer rolls out e-waste collection programme in Telangana August 11	New initiative	Process description	Future plans
17	The Hindu	Flipkart to let people exchange defunct electronic items for new products June 26	New initiative	Process description	Effect analysis
18	The Hindu	Revive' programme inaugurated in Ernakulam June 12	New initiative	Objectives	Achievements
19	The Hindu	1,387 tonnes of e-waste piles up in Dept. of Public Instruction June 5	Highlighting the problem	Causes of problem	Critical analysis of steps taken
20	The Hindu	When trash becomes art in the hands of Dhiraj Sharma April 21	Achievement	Process description	Contribution
21	The Hindu	BPCL Launches E- Waste Management Initiative to Further Strengthen Sustainable Development Goals March 18	New initiative	Problem description	Other social contribution by BPCL
22	The Hindu	30-day e-Waste drive 'Dump or Donate' launched in city Feb 7	Description of actors	Problem description	Process description
23	The Hindu	Mega e-waste collection drive inaugurated Jan 29	Description of actors	Problem description	Process description



24	The Hindu	PM Lions District 317D to launch e-waste collection, awareness campaign	Campaign timeline	Process description	Problem description
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Interpretation

The application of Van Dijk's superstructure lens (opening - content - closing) to the sampled articles helped in showing how the schematic representation systematically shapes meanings and shows power relations. The analysis of the reporting by TOI and The Hindu reveals two different reporting styles that range from superficial to in-depth investigative reporting. TOI, instead of being critical rather mostly promoted positive stories related to E-Waste management, such as planned initiatives, organized campaigns, and forecasted outcomes. The articles have mostly emphasized forging positivity through superlative claims, process descriptions, and appreciation. However, the articles published by the Hindu have undertaken a critical stance by highlighting the problem, analyzing its causes, and explaining it from the perspectives of different stakeholders. This variation in schematic patterns of the two news platforms reveals two different ideological proclivities - the TOI's openings largely emphasized new initiatives, improved situations, and awareness drives. Its content described policies and actions taken, while the closings focused on benefits for individuals, appreciation for efforts, and highlighting the government's seriousness. This style of reporting from TOI reflects optimism and positions the issue at hand in a state of progress and achievement. On the other hand, The Hindu adopted a

critical approach with its openings highlighting the unsolved problem, followed by content frequently describing problems and, causes behind these problems. Closings in The Hindu tended to assess the steps taken, achievements, or underlying dissatisfaction. Thus, while the TOI's superstructure aimed at praising the state and corporate initiatives. The Hindu focused on critical evaluation of the initiatives taken and presented diverse perspectives, offering an interrogative approach to e-waste management. Articles related to E-Waste management policy and new initiatives published in TOI have majorly focused on the description of policy features and process description, whereas The Hindu has presented a detailed explanation of the problem, along with the critical evaluation of the governmental policy, followed by corrective measures. The discourse marker of articles in TOI has been restricted from attributing the mismanagement of E-Waste to any individual or entity, whereas The Hindu has blatantly attributed the mismanagement to the government, junk collectors, and the public. One of the important reasons for this difference in the presentation of news articles by TOI and The Hindu could be attributed to the differences in their editorial priorities. This difference in reporting also indicates how news structures can either diffuse accountability or explicitly channel it to those



in dominant positions. The TOI often structured its stories around new initiatives, campaigns with success-related closings. This narrative diffuses accountability and aligns with a power structure that protects the state and corporate players from direct criticism. The structure adopted by The Hindu often emphasized loopholes in the management. These structural differences prove how the news superstructures can make or break the dominant power structure.

V. Conclusion

This paper presents an analysis of news stories published by TOI and The Hindu on e-waste. The growing threat of electronic waste (e-waste) on the environment and its subsequent impact on humans. The current study concludes that E-Waste, Electronic, Disposal, Collection, Management, Recycling, Drive, Processing, and Awareness are some frequently used keywords in news articles reported by the top two Indian English news apps. The textual analysis initially reveals that most articles on E-Waste have focused on news related to the E-Waste management policy of the government, and the word 'Awareness' is the least frequently used keyword in the articles. However, the thematic analysis concludes that the dominant themes represented by the articles are awareness campaigns and the disposal and recycling of E-Waste. Moreover, the study also concludes that only a few articles have highlighted issues related to the mismanagement of E-Waste. Further, the efforts made by the government in

E-Waste management are well documented by the journalists; however, little attention is being paid to the efforts of other entities. TOI has undertaken a positive stance in news presentation, while a balanced presentation of news articles has been made by The Hindu.

The current study is limited in several ways. First, the researchers in this study have collected news articles from only two news apps, i.e., TOI and The Hindu. Hence, it is recommended for future researchers to consider more such news apps for a better understanding of the phenomenon. Second, along with Critical Discourse Analysis, future researchers may complement their analysis with other qualitative methods, such as interviews and focus group discussions, to gain deeper insights and varied perspectives. Third, future researchers may undertake longitudinal research to understand the long-term impact of such reporting. Since the current research puts emphasis on 'lexical analysis' hence future researchers may incorporate 'syntactical analyses for a better understanding of the research problem.

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