Analysis of Digital Content of Indonesian Society in the Public Service Sector

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Abstract. This research focuses on digital content analysis in the public service sector, to provide insight into the performance and response of the public to these services. Through digital content analysis, service providers can evaluate the effectiveness of information and service delivery, understand the level of community engagement, and identify trends and dominant conversation topics. This research uses Brand24 as a monitoring tool, covering various platforms such as Twitter, blogs, news, forums, videos, and websites. The keyword "layanan publik" in Indonesian was used to collect data for one month. Sentiment analysis was used to analyze digital content performance, while qualitative analysis was performed on reviews using ATLAS.ti to provide insight into community response. The research results include the distribution of 2673 reviews from various platforms, with a main focus on the areas of public services, population administration, transportation, health, and regulation. Public services involving the digitization of population data receive positive attention, but several conditions such as additional costs and commercialization in service access create negative sentiment. Sentiment analysis shows that 63% of positive mentions expressed appreciation for quality service initiatives. However, 37% of negative mentions reflected dissatisfaction with costs, slowness in service, and concerns about commercialization. This research provides a holistic picture of the public's response to public services in Indonesia. The implications of these findings can help service providers in improving transparency, service quality, and responding to community needs and concerns regarding public services.

Keywords: Public service, community reviews, openness of public information, social media, content digital analysis.

1 Introduction

Digital content analysis in the public service sector facilitated by the government has an important role in providing an overview of the performance that has been

achieved. Through this analysis, the government can understand the effectiveness of the delivery of information and services to the public [1], [2]. This understanding includes evaluating the quality of digital content, how often updates are made, and how people interact and respond to it. Digital content analysis also allows governments to measure levels of citizen engagement, identify trends and dominant conversation topics, and evaluate responses to specific initiatives or policies. This method is also widely used in organizations to listen to valuable information and input from consumers [3].

Digital content analysis in the context of public services is an approach that provides insight into how governments or public institutions communicate and interact with the public through online platforms [4], [5]. This analysis involves evaluating digital content, such as text, images, and videos distributed by government entities across various channels, including official websites, social media, or other platforms. Digital content analysis in the public service sector can be carried out through sentiment analysis of news reports in various mass media and social media [2].

This article shows a sophisticated approach using sentiment analysis on digital data obtained from the public [6]. By referring to previous research [7]–[9] this research builds the foundation for careful sentiment analysis. Through this approach, the article aims to gain an in-depth understanding of how society responds to public services, especially in terms of positive, negative, or neutral sentiment. Sentiment analysis is an effective tool for exploring the language in people's reviews to determine their perceptions of certain discussion topics. By referring to Le & Liaw [10], this article identifies that the choice of discussion topic greatly influences the results of sentiment analysis. This is a significant contribution to understanding how people value public services and how this can shape collective perceptions. Reviews or feedback from users are identified as a valuable source of information, providing a clear picture of the public's views on the public services provided. Referring to Gofen's findings [11], the article highlights the importance of social acceptance of newly introduced services.

2 Literature Review

2.1 Public Service

Public services are services or activities organized by the government or public institutions to provide benefits and meet community needs [12], [13]. The main goal of public services is to improve the welfare of society, provide justice, and fulfill the basic rights of citizens [14]. Public services can cover various sectors, including education, health, security, transportation, environment, and other sectors [2], [12].

The main characteristics of public services involve providing fair and equitable access for all citizens, transparency in administration, accountability to society, and orientation to the public interest [15], [16]. The government has a central role in the delivery of public services, and the ultimate goal is to improve the quality of life of society as a whole [14].

Public services can be provided in various forms, including public education, health systems, security services, and public infrastructure [12]. The community is expected to be able to access these services without discrimination and by obtaining maximum benefits according to their needs [16]. The success of public services is often measured through several indicators, including the level of public satisfaction, efficiency of delivery, and positive impact on general welfare [17]–[19].

Internet technology plays an important role in providing instant access to the public regarding the latest information and data [6] regarding public services [2]. Various online platforms, official government websites, and social media channels enable the delivery of information regarding public services directly and efficiently [20]. The use of Internet technology also enables the government to monitor the performance of public services in real time [20]. This creates a direct interaction between the government and the public, allowing for rapid feedback regarding public services [2], [20], thus accelerating public understanding, and ensuring openness and clarity in public services [20], [21].

2.2 Digital Content Analysis (DCA)

Digital Content Analysis (DCA) is a research method that utilizes a data analysis approach to investigate and understand digital content, such as text, images, or videos, produced and available online. The main goal of DCA is to uncover patterns, trends, and meanings in digital content. DCA is widely used in various disciplines, from communication science to social sciences, and provides valuable insights to support data-driven decision-making and research in the digital era [3]. Social media, such as Twitter data, can be used to analyze the level of citizen engagement in several fields [4], [5]. This allows research on large amounts of digital content with high efficiency [20].

Sentiment Analysis is an integral part of DCA, where researchers evaluate whether digital content is positive, negative, or neutral [20], [21]. It helps in understanding people's perceptions and reactions towards a particular topic [7], [22] or brand. Additionally, DCA focuses on identifying patterns and trends in data, such as frequently occurring keywords, dominant topics, or changes in sentiment over time, opening up opportunities to gain deeper insights into trends and dynamics in the digital space [23], using frequently occurring keywords, dominant topics, and changes in sentiment over time [24].

When conducting DCA, it is important to consider the context and have a deep understanding of digital content interpretation [5], [20]. Proper interpretation is needed to ensure that the analysis results reflect an accurate understanding of the sentiment, meaning, and implications of the digital data being studied [21]. One use of DCA is in measuring the impact and influence of certain campaigns, initiatives, or events in cyberspace [17], and understanding how information spreads and interacts with the public or consumers [3]. Not only that, digital content analysis has broad applications in various disciplines, including communication science, sociology, political science, and business [3], as an effective tool for data-based decision-making and strategy development [22], [24].

3   Methods

This research summarizes and analyzes digital discourse around public services provided by the government, which is the main topic of conversation among people on the Internet and social media. In collecting and evaluating data, this research utilizes Brand24 [25]–[27]as a monitoring tool that focuses on various platforms, including Twitter [5], blogs, news, forums, videos, and websites [2]. By implementing the keyword "*layanan publik*" in Indonesian, the research covers one month, from February 7 to March 8, 2024. This research uses the "*mention*" and "*reach*" metrics in analyzing digital content performance. The term "*mentions*" refers to how often a brand, topic, or keyword is mentioned or acknowledged in a digital environment. On social media, a mention can be in the form of a tag or directly writing a brand name in a user's upload, comment, or post. Meanwhile "*reach*" includes the number of people or accounts who can see certain content or uploads.

The research continued by carrying out content analysis which involved several stages, such as coding to identify main concepts or themes, grouping codes to group similar data, and creating themes according to the core groups that had been produced. The use of ATLAS.ti [6], [28]provides support for transparency and systematicity in this content analysis process. This method involves reading the text line by line, generating quotes, and coding to achieve a deep understanding of the digital discourse around public services. With this approach, the research aims to explore the meaning contained in community discussions and present them in the form of substantial thematic findings.

4   Results

The total number of mentions obtained from this keyword reached 2673, with diverse distribution across various platforms, such as Twitter (145 times), news (1725 times), forums (10 times), blogs (224 times), videos (20 times), TikTok (48 times), Facebook (14 times) and website (458 times). The distribution of digital content acquisition by platform is shown in Figure 1.
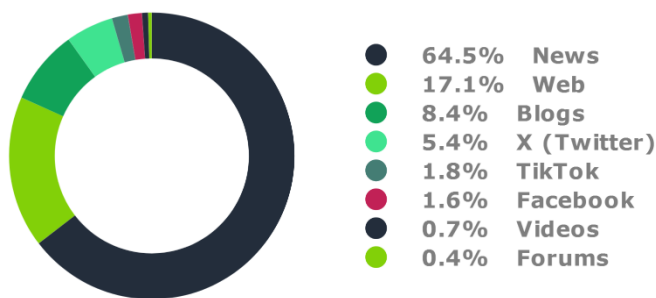

64.5%	News
17.1%	Web
8.4%	Blogs
5.4%	X (Twitter)
1.8%	TikTok
1.6%	Facebook
0.7%	Videos
0.4%	Forums

Fig. 1. Digital content distribution per platform

A numerical summary of the data collected is shown in Figure 2.

Fig. 2. Numerical summary of reviews

Further data analysis was carried out using ATLAS.ti. By reading all social media posts and extracting the subject of each content, the codes were classified by service area (Table I). The field of public administration is the main focus of society, followed by the fields of education, economics, and transportation. In the economic and financial fields, public services include tax and banking services. Many public services in the health sector highlight services in hospitals and BPJS. Most public services have been assisted by the use of digital applications.

Table 1. Public Services Are Discussed In Various Aspects

No	Aspects	Description
1.	General service	An overview of the reality of public services, such as speed of service, fairness in accessibility, and service costs covering economics, education, infrastructure, and personnel
2.	Population Administration	Recognition of efforts to provide convenience in population administration services to the community
3.	Transportation	Various community perspectives regarding the role of government, business orientation, and community rights in the public transportation sector
4.	Health	Patient services at hospitals, health centers, and BPJS
5.	Regulations	Public expectations for public service policies with more ethics and integrity

Analysis of public services produces several sentiments, including negative and positive sentiments. Sentiment analysis of these mentions yielded an understanding of the public's response to public services, with 127 (63%) positive mentions and 74 (37%) negative mentions.

The results of public service sentiment analysis, as shown in Table II, provide positive and negative information that can provide benefits and evaluation material for service providers. The positive sentiment of the review generally contains appreciation, recognition, and aspirations to improve the quality of public services. The review also reflects various initiatives, innovations, and expectations regarding public services in various sectors and regions. Meanwhile, negative sentiment in the process and administration of services can be seen from the existence of additional fees

charged by extortionists and the commercialization of public services which can limit public access to services that should be free. Apart from that, services are long-winded, and gaps in access to public services result in injustice in the distribution of wealth, income, and social benefits.

Table 2. Public Service Sentiment

Positive	Negative
• Optimism regarding solidarity and shared strength	• Additional fees and illegal levies (extortion)
• Integration of public services to simplify and improve accessibility	• Inaccuracy of service
• Support for innovation and efforts to improve public services from the police through SIMANTAP Innovation and outreach to Call Center 110	• Want more tangible benefits from paying taxes
	• Inequality in equal distribution of wealth and income
• Distribution of two-wheeled operational vehicles to increase accessibility for village heads and village heads	• Gaps in access to public services
	• commercialization of public services
	• The need for a firm stance from the government to protect people's rights
• Ease of access to IKD (Digital Population Identity)	• Personal information security
	• App-based services are not satisfactory

5   Discussion

From the accumulated results of this research, it is known that the general service category is the most discussed. The general service aspect is also the one that gets the most positive sentiment. In various digital content platforms that have been collected, people express positive sentiments regarding this public service. Comments such as "*We collectively appreciate the courage of public service officers*" and "*Improving the quality of public services provides great benefits*" reflect appreciation for the government's efforts to improve services for the community. The use of the words "*appreciation*" and "*recognizing its importance*" shows that society understands how essential the role of public services is in everyday life. Likewise, gratitude towards officers working on the front lines reflects support and awareness of their crucial role in providing quality services. Appreciation is also seen in awards events, such as assessing public service compliance in regional police agencies. Activities like this show that the community and service providers are working together to improve the quality of services. The ambition to develop *Special Economic Zone (IKN)* infrastructure is also considered positive, with the hope that quality and affordable public services can be enjoyed by all citizens. This positive sentiment is reflected in the appreciation of public service innovation from the *Technical Implementation Unit (UPT)*.

Several comments reflected negative sentiment towards public services, especially related to additional fees and extortion practices. The public expressed concern that illegal levies could hinder access to public services [30], [31] that should be free. Awareness of long-windedness, untimely service, and incompetent officers also emerged as criticism of the quality of public services. These comments can form the

basis for improving public services to better meet the needs and expectations of society [32].

Furthermore, the aspect that people talk about most digitally is population administration services. Users of the E-dukcapil application provide a positive view of the population administration services provided. They realize the benefits of convenience offered by this application, especially in terms of saving costs and time. Several comments highlighted the need for improvements in terms of application loading, but the essence was appreciation for efforts to digitize population administration services. This positive sentiment reflects the public's desire to switch to public services that are more efficient and practical, reducing the manual bureaucracy that consumes time and energy [2].

Several negative comments emerged regarding transportation and infrastructure services in Indonesia. Several problems still arise such as increases in toll rates [33], and the view that public transportation is considered a business, which can influence tariff policies and service orientation. Criticism has also emerged regarding the use of e-money, which may not always be efficient or accessible to all levels of society. In addition, there is a view that the state is more focused on maintaining the investment climate rather than paying full attention to public services [34], [35]. This criticism reflects dissatisfaction with the government's orientation which is seen as not giving maximum attention to the needs of the community in terms of transportation services and infrastructure.

Health services are also not spared from a lot of public discussion online. Sustainability in the provision of health services is a major highlight, showing the government's commitment to improving the quality of health services for the community. However, there are criticisms and complaints from the public regarding the process of registering workers as health insurance participants. Some companies deemed negligent in registering their workers may face sanctions in the form of fines, loss of rights to public services, or written warnings. This criticism reflects concerns about company compliance in providing health rights for workers. Apart from that, there were complaints from patients regarding public services at regional hospitals. Patients said that public services in hospitals were considered not optimal and efficient [36].

Public services in various other sectors, including the economy, education, and regulation, often also receive the spotlight in online public conversations. One real example is the case of identity hijacking through digital public service applications [2]. The existence of *WhatsApp business* accounts using fake names illustrates the vulnerability of the system, raising concerns about data security and public services being vulnerable to criminal practices. Fundamental problems also arise related to digital-based applications in public services. Many people question why public services now tend to rely on cellphone-based applications, even though the user experience is less than satisfactory. There is a desire to prioritize web-based applications which are considered more stable and simpler by some people.

The criticism expressed by the public towards policies and regulations reflects a deep aspiration for better, more effective, and fair public services. As a response to the performance of the government and related institutions, this criticism is a firm call from citizens to improve the quality of services provided. In this way, the regulations

implemented can be more in line with community needs and have a positive impact on fulfilling rights and collective welfare.

6   Conclusion

In particular, public services dominate discussions and receive high appreciation from the public. This category recorded a large number of positive sentiments, showing public support for the government's efforts to improve the quality of public services. These findings are also accompanied by some negative sentiments regarding public services, especially regarding additional fees and extortion practices. Criticism of disparities in equal distribution of wealth and access to public services has also emerged. Nonetheless, it is important to note that these criticisms can be taken as calls for improvement, and some negative comments appear as hopes for positive transformation in public service provision.

Several important aspects related to the results of digital content analysis in the public service sector include:

- User interaction and digital content analysis can measure the extent to which the public engages with the content provided.
- Sentiment analysis and sentiment research help understand how people respond to the information conveyed. Negative sentiment is valuable information for service providers, the suggestions conveyed also become evaluation material to improve service quality.
- Monitoring issues and trends can identify issues that dominate online conversations and what trends can affect public services.
- Improvement of services based on feedback, the government can adjust communication strategies and services based on the needs and expectations of the community.

In dealing with these findings, the government and service providers need to respond proactively to criticism and community expectations. Improvements in the quality of public services, increasing transparency, and addressing technical challenges will play an important role in building public trust in the services provided. Through appropriate responses, it is hoped that public services in various sectors can become more effective, efficient, and responsive to community needs.

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