



## Analysis of Internet Utilization for the Community in Terms of Rural and Urban Conditions in the Province of Indonesia

Suhardjono<sup>1\*</sup>, Pandu Adi Cakranegara<sup>2</sup>, Ade Risna Sari<sup>3</sup>, Rudy Max Damara Gugat<sup>4</sup>, Nanny Mayasari<sup>5</sup>

<sup>1</sup>Universitas Bina Sarana Informatika, Indonesia

<sup>2</sup>Universitas Presiden, Indonesia

<sup>3</sup>Universitas Tanjungpura, Indonesia

<sup>4</sup>Institut Transportasi dan Logistik Trisakti, Indonesia

<sup>5</sup>Universitas Nusa Cendana, Indonesia

---

### ARTICLE INFO

#### *Article history:*

Received Sep 9, 2022

Revised Sep 25, 2022

Accepted Oct 11, 2022

---

#### *Keywords:*

Data Infographic  
Internet Utilization  
Rural and Urban  
The Digital Society Age

---

### ABSTRACT

The advancement of information and communication technology necessitates the establishment of internet telecommunications networks to serve all regions of Indonesia. The necessity for internet connection has evolved into a pattern of community requirements toward a technologically savvy and digital society. The government of Indonesia has carried out equitable distribution of internet networks in order to assist the efforts of the 4.0 technology era. The purpose of this research is to examine how Indonesians use the internet, particularly in rural and urban locations across the country. The data visualizations are used in the analysis for each province in Indonesia to determine the purpose of internet use in the community. by understanding the purpose of internet use in rural and urban populations across all provinces in Indonesia in order to acquire statistics on telecommunications development and the most prevalent use that is useful in people's daily lives The data is based on Central Statistics Agency data on internet use in rural and urban areas throughout 34 Indonesian provinces. According to the findings, the most common reasons for people in Indonesia to use the internet are for social media purposes, for information and news, and for entertainment.

*This is an open access article under the [CC BY-NC](https://creativecommons.org/licenses/by-nc/4.0/) license.*



---

#### *Corresponding Author:*

Suhardjono,  
Program Study of Information System  
Universitas Bina Sarana Informatika Kampus Sukabumi,  
Cemerlang No. 8 Street, Sukakarya, Warudoyong District, Sukabumi City, West Java, 43135,  
Indonesia  
Email: [suhardjono@bsi.ac.id](mailto:suhardjono@bsi.ac.id)

---

## 1. INTRODUCTION

The spread of network infrastructure from every communication service provider to all urban and rural areas in Indonesia is essential to the growth of the internet in Indonesia (Tim Peneliti Puslitbang SDPPI, 2018). For example, by building a Base Transceiver Station (BTS) in a province in Indonesia, the number of BTS is growing every year, and telecommunications companies continue to offer internet service in all parts of the province in Indonesia. Another thing that is being done is to make the service bandwidth of

telecommunication operators bigger so that more people in all of Indonesia's provinces can use the internet (Zarina Din Maryati Mohd Yusof, Jamaiah Yahaya, 2021). The fast growth of cell phones in Indonesia is a big reason why so many people there use the internet. In 2020, 90.75 percent of Indonesian homes will own or know how to use at least one cell phone. This number is higher than what it was in 2017, when it was 88.13 percent (Social & Hootsuite, 2021). Distance is no longer a barrier, and the differences between people who live in cities and those who live in the country are less. Differences in time, distance, and the different kinds of people in a population no longer slow down the speed at which information spreads (Harahap & Adeni, 2020).

Because an acceptable internet infrastructure must be supported by supporting technology, usage of the internet networks cannot be divorced from the growth of information and communication technology (Gafar, 2017) (Alimuddin, 2021). This is because suitable internet infrastructure is required. People's ways of living have shifted into the digital society period as a direct result of the proliferation of the internet (Dewantara et al., 2022). The advancement of telecommunications in Indonesia has had a significant impact on the advent of the digital era. People of all socioeconomic backgrounds now use digital devices that are capable of being linked to the internet for a variety of reasons in their daily lives (Simarmata et al., 2021). It has the eighth highest rate of public internet usage in the world, which places it among the countries with the biggest population of internet users (Akmala, 2019). In a recent announcement, the Indonesian Internet Service Provider (APJII) projected that the country's internet penetration rate will reach 77.02% between the years 2021 and 2022. The percentage of people in Indonesia who have access to the internet is growing at a steady rate each year. Internet use among the population of Indonesia reached 64.8% in 2018, and is expected to reach 73.7% between 2019 and 2020 (Pahlevi, 2022). The fact that more and more individuals in Indonesia's rural and urban areas (Qomariyah, 2009) are connecting to the internet shows that they consider it an essential component of their day-to-day lives in both settings.

The goal of this research is to conduct an investigation into the ways in which the people of Indonesia make use of the internet, particularly those living in rural and urban settings within Indonesia's many provinces. In order to determine the reasons why people in the community use the internet, a study was carried out utilizing infographics to display data (Azis et al., 2022) from all 34 provinces in Indonesia. In order to obtain data on information on the development of telecommunications and the most dominant use that is useful in people's day-to-day lives, it is necessary to have a solid understanding of the reasons why people in rural and urban communities across all of Indonesia's provinces use the internet.

## 2. RESEARCH METHOD

### 2.1. Internet Telecommunication Network

The Internet Telecommunication Network (ITN) is a collection of different pieces of telecommunications hardware and accessories that are utilized for various forms of communication (Harahap & Adeni, 2020). Fixed network operations for public telecommunications and leased circuits, as well as the operation of mobile telecommunications networks such as terrestrial, cellular, and satellite mobile networks, are included in the category of telecommunications network activities. These activities pertain to the use of the networks themselves. The term "interconnection networking" (Internet) refers to a worldwide network of computer networks that are able to communicate with one another and form connections with other networks utilizing the Internet Protocol Suite as the standard (Gani, 2020).

## 2.2. The Method of Analysis

This study makes use of descriptive quantitative methods as its research methodology. A descriptive quantitative method is a method that aims to objectively and methodically describe a situation based on factual data and making use of numbers (Sugiyono, 2017). These methods can range from the collection of data to the visualization of data (Lee, 2018) (Sadiku et al., 2016). An image or visualization of internet usage data for people in rural and urban areas throughout Indonesia is created in this study using data obtained from the Central Statistics Agency of Indonesia (BPS Indonesia, 2020). The data is in the form of time series data, and it is processed with Microsoft excel to create the image or visualization (Toasa et al., 2018).

## 3. RESULTS AND DISCUSSIONS

### 3.1. Internet Use in Indonesia Rural and Urban Provinces

In terms of internet usage in rural populations, the analysis phase was conducted in 34 provinces throughout Indonesia. There are various facets to the overall purpose of Internet usage.

Table 1. The Purpose of Using the Internet From Various Aspects

No	Aspect of Internet Utilization
1	Getting information/News
2	Getting Information for Learning Process
3	Sending/Receive Email
4	Social Media
5	Purchasing Goods/Service
6	Selling Goods/Service
7	Entertainment
8	Financial Activities
9	Getting Information Regarding Goods/Service
10	Others

From the Central Statistics Agency's statistics, it is possible to examine the vulnerable 2016–2020 internet usage by province for the purposes of use (BPS Indonesia, 2020), which are shown in Table 1. The results of the province in Indonesia's community's % use of the internet are then displayed in Figure 1 below.

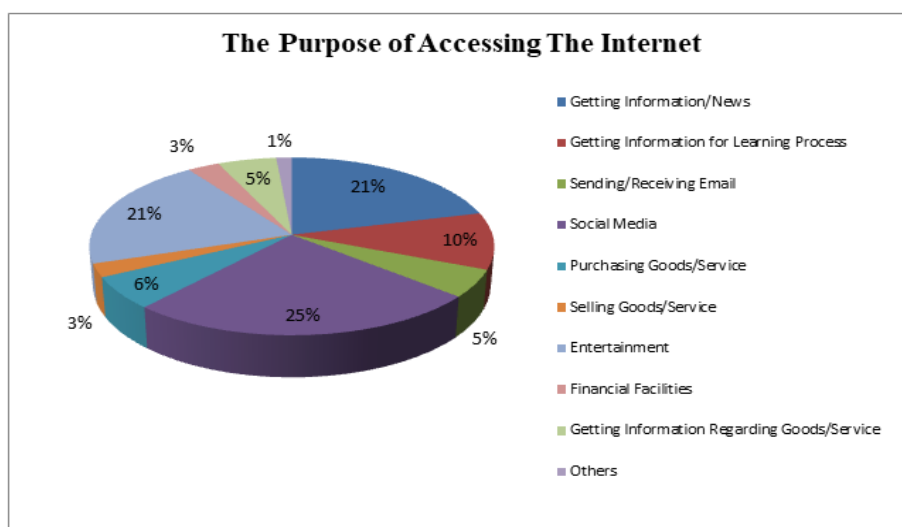


Figure 1. The Purpose of Accessing the Internet

Based on Figure 1, it can be explained that the purpose of using the internet by people in rural and urban areas in 34 provinces in Indonesia is the purpose of Getting information/News is 21%, The purpose of Getting Information for Learning Process is 10%, the purpose of Sending/Receive Email is 5%, the purpose of Social Media is 25%, the purpose of Purchasing Goods/Service is 6%, the purpose of Selling Goods/Service is 3%, the purpose of Entertainment is 21%, the purpose of Financial Activities is 3%, the purpose of Getting Information Regarding Goods/Service is 5%, and Others is 1%.

The purpose of internet use is still dominated by the use of social media by 25%, the purpose of Getting information/News is 21% and the purpose of Entertainment is 21%. While the purpose of using the internet which is low is 3%, the purpose of Selling Goods/Service is 3% and the purpose of Financial Activities is 3%.

### 3.2. Internet Use in Rural Areas

The next analysis is of the purpose of internet use by people in rural areas in Indonesia. The results of the infographic data in percentages can be seen in Figure 2 below.

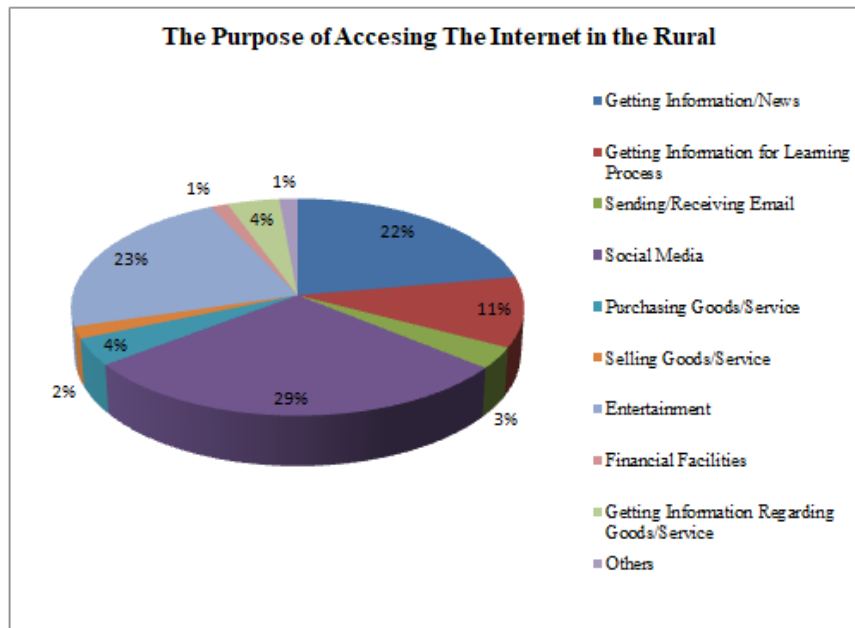


Figure 2. The Purpose of Accessing the Internet in the Rural Areas

Based on Figure 2, it can be explained that the purpose of using the internet by people in rural and urban areas in 34 provinces in Indonesia is the purpose of Getting information/News is 22%, The purpose of Getting Information for Learning Process is 11%, the purpose of Sending/Receive Email is 3%, the purpose of Social Media is 29%, the purpose of Purchasing Goods/Service is 4%, the purpose of Selling Goods/Service is 2%, the purpose of Entertainment is 23%, the purpose of Financial Activities is 1%, the purpose of Getting Information Regarding Goods/Service is 4%, and Others is 1%.

The purpose of internet use is still dominated by the use of social media by 29%, the purpose of Entertainment is 23% and the purpose of Getting information/News is 22%. Meanwhile, the purpose of using the internet is low, namely the purpose of Selling Goods/Service at 2%, and the purpose of Financial Activities is 1%.

### 3.3. Internet Use in Urban Areas

The next analysis is of the purpose of internet use by people in urban areas in Indonesia. The results of the infographic data in percentages can be seen in Figure 3 below.

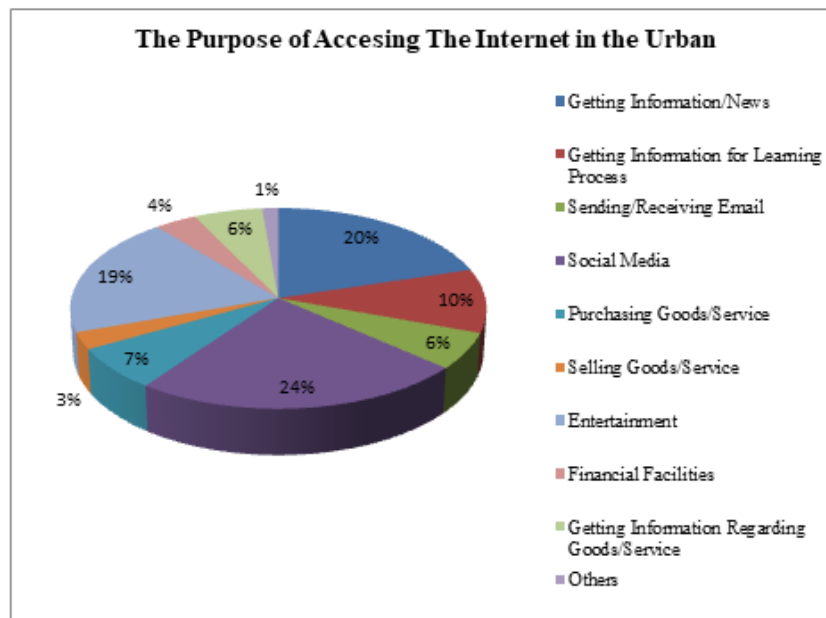


Figure 3. The Purpose of Accessing the Internet in the Urban Areas

Based on Figure 3, it can be explained that the purpose of using the internet by people in rural and urban areas in 34 provinces in Indonesia is the purpose of Getting information/News is 20%, The purpose of Getting Information for Learning Process is 10%, the purpose of Sending/Receive Email is 6%, the purpose of Social Media is 24%, the purpose of Purchasing Goods/Service is 7%, the purpose of Selling Goods/Service is 3%, the purpose of Entertainment is 19%, the purpose of Financial Activities is 4%, the purpose of Getting Information Regarding Goods/Service is 6%, and Others is 1%.

The purpose of internet use is still dominated by the use of social media by 24%, the purpose of Getting information/News is 20% and the purpose of Entertainment is 19% and. While the purpose of using the internet which is low, namely the purpose of Selling Goods/Service is 3%, and the purpose of Financial Activities is 4%.

### 3.4. Analysis of Internet Use Objectives Based on the Top 10 Provinces in Indonesia

This analysis explains the purpose of internet use in terms of the purpose of use with the largest percentage from Figure 1, Figure 2 and Figure 3, namely the purpose of social media, the purpose of getting information/news and the purpose of entertainment.

#### 3.4.1. The Purpose Of Accessing The Internet For Social Media

According to The Purpose of Accessing The Internet For Social Media, individuals in Indonesia's ten largest provinces use the internet to access social media in both urban and rural locations. Figure 4 below shows the percentage of Indonesia's top 10 provinces that utilize the internet for social media.

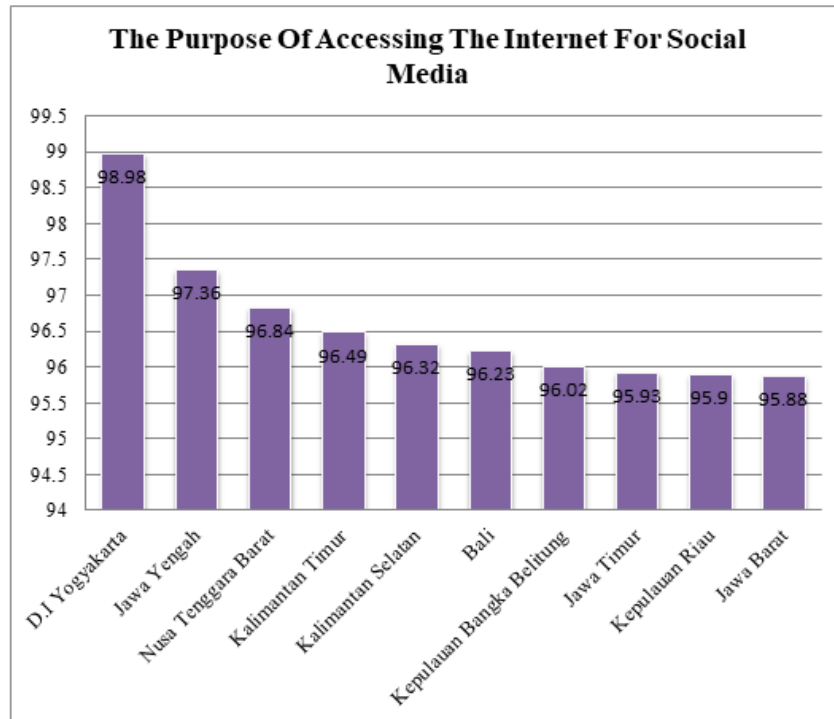


Figure 4. The Purpose of Accessing the Internet for Social Media

Based on Figure 4, it can be concluded that the province of D.I. Yogyakarta in Indonesia has the highest percentage of rural and urban residents who use the internet for social media, with a percentage of 98.98%.

### 3.4.2. The Purpose Of Accessing The Internet For Getting Information/News

The percentage of the purpose of accessing the internet for getting information or news from the top 10 provinces in Indonesia can be seen in Figure 5 below.

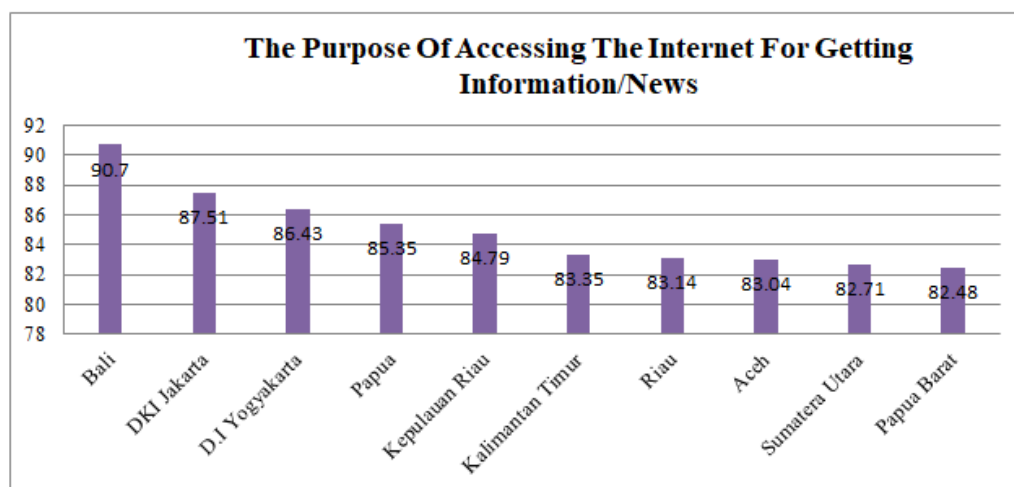


Figure 5. The Purpose of Accessing the Internet for Getting Information/News

Based on Figure 5, the province of Bali in Indonesia has the highest percentage of rural and urban residents who use the internet to access information and news with 90.7%.

### 3.4.3. The Purpose Of Accessing The Internet For Entertainment

The percentage of the purpose of accessing the internet for entertainment from the top 10 provinces in Indonesia can be seen in Figure 6 below.

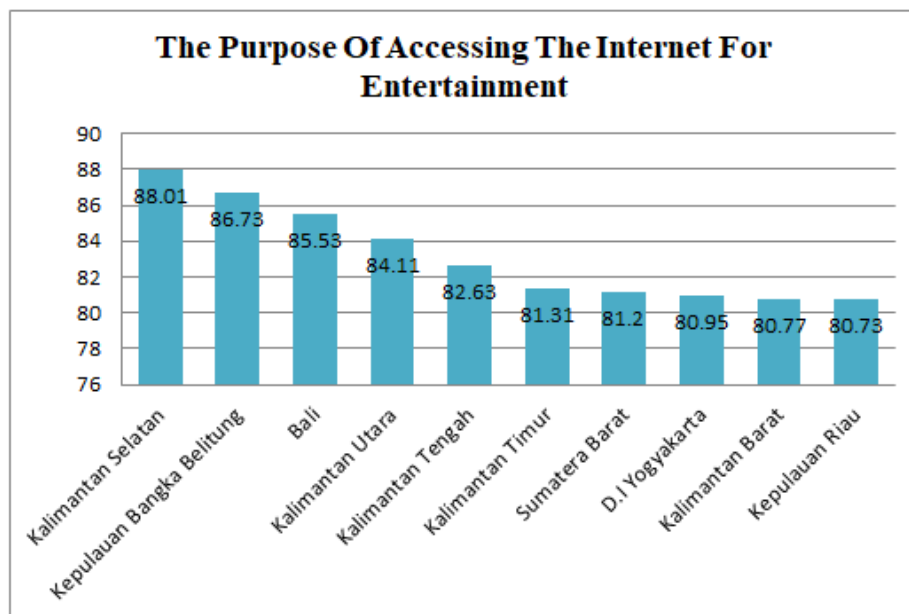


Figure 6 The Purpose of Accessing the Internet for Entertainment

Based on Figure 6, it can be deduced that the province of South Kalimantan in Indonesia has the highest percentage of rural and urban residents who use the internet for entertainment, at 88.01 percent.

## 4. CONCLUSION

The conclusion from the analysis of internet use by people in provinces in Indonesia is that internet use is based on data from the central statistical agency covering several aspects of the purpose of internet use. From the results of the analysis, the purpose of using the internet in general by people in rural and urban areas is that the purpose of using the internet is still dominated by the use of social media by 29%, the purpose of entertainment is 23%, and the purpose of getting information/news is 22%. Meanwhile, the purpose of using the internet is low, namely the purpose of selling goods or services at 2%, and the purpose of financial activities at 1%. From a review of the provinces in Indonesia where people in rural and urban areas use the internet for social media, the largest percentage is in the province of D.I. Yogyakarta with a percentage of 98.98%; the purpose of using the internet to access information and news is the largest percentage in the province of Bali with a percentage of 90.7%; and the destination of the internet for entertainment, which is the largest percentage in the province of South Kalimantan with a percentage of 88.01%.

## REFERENCES

- Akmala, S. (2019). PERKEMBANGAN INTERNET PADA GENERASI MUDA DI INDONESIA DENGAN KAITAN UNDANG-UNDANG ITE YANG BERLAKU. *Cyber Security Dan Forensik Digital*, 1(2 SE-Articles), 45–49. <https://doi.org/10.14421/csecurity.2018.1.2.1371>
- Alimuddin, A. (2021). Penggunaan Internet Dan Peluang Berwirausaha Di Indonesia. *Jurnal Kewirausahaan Dan Bisnis*, 26(2), 112–121.

- Azis, N., Wahidin, A. J., Cakranegara, P. A., Muditomo, A., & Efendi, E. (2022). Visualization Of Tourist Visit Time Series Data Using Google Data Studio. *Jurnal Mantik*, 6(2), 2153–2159.
- BPS Indonesia. (2020). *STATISTIK TELEKOMUNIKASI INDONESIA 2020 Telecommunication Statistics in Indonesia 2020* ( dan P. Direktorat Statistik Keuangan, Teknologi Informasi (ed.)). Badan Pusat Statistik Indonesia.
- Dewantara, R., Cakranegara, P. A., Wahidin, A. J., Muditomo, A., & Sudipa, I. G. I. (2022). Implementasi Metode Preference Selection Index Dalam Penentuan Jaringan Dan Pemanfaatan Internet Pada Provinsi Indonesia. *J-SAKTI (Jurnal Sains Komputer Dan Informatika)*, 6(2), 1226–1238.
- Gafar, A. (2017). Penggunaan Internet sebagai media baru dalam pembelajaran. *Jurnal Ilmiah Universitas Batanghari Jambi*, 8(2), 36–43.
- Gani, A. G. (2020). SEJARAH dan PERKEMBANGAN INTERNET DI INDONESIA. *JURNAL MITRA MANAJEMEN*, 5(2).
- Harahap, M. A., & Adeni, S. (2020). Tren penggunaan media sosial selama pandemi di indonesia. *Professional: Jurnal Komunikasi Dan Administrasi Publik*, 7(2), 13–23.
- Lee, C. (2018). *Belajar Visualisasi Data dengan Grafis dan Infografis Step-by-Step*. Elex Media Komputindo.
- Pahlevi, R. (2022). *APJII: Penetrasi Internet Indonesia Capai 77,02% pada 2022*. <https://Databoks.Katadata.Co.Id/>.
- Qomariyah, A. N. (2009). Perilaku penggunaan internet pada kalangan remaja di perkotaan. *Universitas Airlangga Surabaya*, 6, 55–64.
- Sadiku, M., Shadare, A. E., Musa, S. M., Akujuobi, C. M., & Perry, R. (2016). Data visualization. *International Journal of Engineering Research And Advanced Technology (IJERAT)*, 2(12), 11–16.
- Simarmata, J., Manuhutu, M. A., Yendrianof, D., Iskandar, A., Amin, M., Sinlae, A. A. J., Siregar, M. N. H., Hazriani, H., Herlinah, H., & Sinambela, M. (2021). *Pengantar Teknologi Informasi*. Yayasan Kita Menulis.
- Social, W. A., & Hootsuite. (2021). *Digital 2021 : INDONESIA*. Simon Kemp, 103.
- Sugiyono. (2017). *Metode penelitian: Pendekatan Kuantitatif, Kualitatif, dan R&D*. Bandung : Alfabeta, 2015.
- Tim Peneliti Puslitbang SDPPI. (2018). ANALISIS INDUSTRI TELEKOMUNIKASI INDONESIA UNTUK MENDUKUNG EFISIENSI. *Puslitbang Sumber Daya, Perangkat, Dan Penyelenggaraan Pos Dan Informatika Badan Penelitian Dan Pengembangan SDM Kementerian Komunikasi Dan Informatika*, 1–61.
- Toasa, R., Maximiano, M., Reis, C., & Guevara, D. (2018). Data visualization techniques for real-time information—A custom and dynamic dashboard for analyzing surveys’ results. *2018 13th Iberian Conference on Information Systems and Technologies (CISTI)*, 1–7.
- Zarina Din Maryati Mohd Yusof, Jamaiah Yahaya, D. I. J. (2021). Challenges in IoT Technology Adoption into Information System Security Management of Smart Cities: A Review. *Advances in Science, Technology and Engineering Systems Journal*, 6(2), 99–112. <https://doi.org/10.25046/aj060213>