WEBSITE AND SOCIAL MEDIA MANAGEMENT OF LIPI'S BUREAU OF COOPERATION, LAW AND PUBLIC RELATIONS IN PUBLIC INFORMATION DISCLOSURE IN INDONESIA

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ABSTRACT

Today's society depends on the internet, resulting from the Covid-19 pandemic conditions that have triggered changes to become completely online and enter a modern and sophisticated digital era. BKHH LIPI website and social media is a source to obtain actual and factual information. LIPI PR has a major role in setting the public's right in implementing health protocols and finding solutions for transformation by units to move together, synergize, and be optimistic for Indonesia in the field of science and technology. This study used qualitative research type with descriptive analysis. LIPI PR Bureau, which provides information, publication, and technology as a comprehensive barometer of research in Indonesia, has duties and is trusted by the public. The openness of LIPI's information as a humanist research institution to the public answers the realities to form a positive image institution. Website and social media are quite effective in building the brand of government institutions and improving effective communication between the public and LIPI in input related to current facts, science, and technology to form a positive image of LIPI in the eyes of the Indonesian people. The management of the LIPI website and social media (BKHH) by the Public Relations Team aims to achieve a positive image, becoming a verified, measured, actual and factual reference for scientific information. The LIPI Public Relations Team has made strategic plans, including audience mapping on each social media owned so that they can make adjustments to the form of content. Social media and websites are proven to be able to improve effective communication between the community in conveying aspirations and input related to science and technology content. This of course can form a positive image of LIPI in the community. LIPI is expected to display scientific content instead of ceremonial information on websites and other social media, use popular language, and provide infographics, tables, images, and audiovisuals to attract millennials and the public.

Keywords: *the Role of LIPI PR, public information disclosure, management of social media and websites*

INTRODUCTION

The COVID-19 pandemic has changed the order of people's habits in daily life and even the people's social culture, which has impacted the aspects of education, the economy, tourism, and others. For almost 1.5 years, the Indonesian people have experienced the COVID-19 pandemic. In response to this, BKHH LIPI, the oldest and largest research and science institution in Indonesia, carried out digital adaptation and transformation.

The Bureau of Cooperation, Law, and Public Relations (*Biro Kerja Sama, Hukum, dan Hubungan Masyarakat*/BKKH) is a work unit at the Indonesian Institute of Sciences (*Lembaga Ilmu Pengetahuan Indonesia*/LIPI) which has the task of sharing science and technology, as well as informing the public. In accordance with its duties and functions, the BKHH role has a service and information function, BKHH must act quickly and factually in providing information, especially in times of crisis during the COVID-19 pandemic. As previously explained, the success of the PR role is a benchmark for a company in carrying out a comprehensive program.[1]

Management of LIPI's website and social media that carry out public information disclosure is the websites and online media management, that provides information needed by the public in terms of science and technology, which is in accordance with international standard. With the current COVID-19 pandemic, the role of BKHH in managing the website and social media must be optimized in order to socialize LIPI BKHHH's program to be better known in the wider community.[2]

Actual and factual two-way information conveyed must be valid, measurable, and accurate information to the public.[3] LIPI is a benchmark for research institutions in Indonesia. Website and social media management as a form of public information disclosure. If you look at the pluralistic Indonesian society and diverse cultures that exist throughout Indonesia, the role of LIPI Public Relations must work optimally for the community. With the information supported by the latest scientific and technological facilities, the Indonesian people get added value, and gain insight based on available information sources. Trusted in LIPI's efforts to increase the positive image of the institution.

The management of the LIPI website and social media (BKHH) on Public Information Disclosure in managing the website and online media can be seen as LIPI's way to increase cooperation and maximize tasks with partners. Actual and factual information will have a positive impact on LIPI in increasing maximum performance for the general public and other stakeholders. Currently, LIPI holds public participation programs in research activities, and the publication of research studies as an effort of LIPI in collaborating with partnerships from various industries in Indonesia and other academic institutions/universities.[4]

LIPI shows that the management of websites and social media as a form of implementation of public information disclosure in Indonesia is still not optimally in

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1   Cutlip-Center-Broom in his book Effective Public Relations (2006:11)

2   www.lipi.go.id. Accessed January 20, 2021

3   Littlejohn, Stephen W dan Karen A Foss, (2017). *Teori Komunikasi Edisi 9*. Jakarta : Salemba Humanik.

4   ibid

accordance with and as mandated by law. For this reason, this is a common concern to encourage LIPI to further improve the governance of public information into a culture to produce transparent governance. This is the research gap that researchers will examine. As an effort to manage government agencies, which has been transformed into an online-based public information disclosure service for the Indonesian people that can be understood by stakeholders so that it does not become an ivory tower, but knowledge can be useful for the wider community.

Research Focus

Based on this study of the problem's background, the focus of the research is as follows: what is the role of the LIPI Bureau of Cooperation, Law, and Public Relations (BKHH) in the openness of public information in Indonesia?

Research Objectives

Based on the above background, the purpose of academic research is to provide understanding and information to the public on how to transform the role of LIPI PR practitioners who have the responsibility to promote science and technology, as well as inform the activities and research results of LIPI researchers as a task and function of the BKHH. , The purpose of this study also aims to provide information related to BKHH activities in the fields of cooperation, law, and public relations as a barometer of research in Indonesia.

LIPI public relations practitioners can become the Public Relations 4.0 and build an Indonesian brand on how Public Relations 4.0 Communication-PR Indonesia is currently able to align the name Indonesia as synonymous with a global brand and the power of the global economy. A description of the Role of the Bureau of Cooperation, Law and Public Relations (BKHH) LIPI in opening public information in Indonesia for factual and actual needs as well as providing an overview of what the general description of Various continuous efforts to build trust is the keyword and strategic steps in the world of Public Relations (PR). Long steps to build Trust with various PR programs and activities are very critical because reputation cannot be built in the short term, but through various steps and positive interactions with stakeholders in the long term. In connection with the above,

Researchers are interested in researching the phenomenon of how the process of Public Relations Practitioners can become PR 4.0 and build an Indonesian Brand through local wisdom and hopes to produce public relations with Indonesian character (not distorted by globalization or digitalization), integrity, and responsibility for the profession (able to incorporate elements of culture and local wisdom in carrying out its functions) as well as being able to provide more value to the profession in various fields, thereby incorporating elements of culture and local wisdom in carrying out its functions) and being able to provide more value to the profession in various fields, thus providing a related picture of what the picture looks like. General information regarding continuous efforts to build trust is a keyword and a strategic step in the world of public relations (PR). Warren Buffet's statement about the importance of maintaining reputation is also based on efforts to foster Trust in Indonesia's role.[5]

5   Cutlip, S. M., Center, A. H., & Broom, G. M. (2000). *Effective public relations* (8th ed.) Upper Saddle

Research Benefits

This study is expected to result in various recommendations related to communication innovation, regarding how the LIPI PR Practitioner process can become PR 4.0 and build an Indonesian brand through public information disclosure which continues to be improved as an effort to realize good governance, clean, free of corruption with elements The importance of information disclosure and the implementation of public services in a transparent, effective, efficient, and accountable manner.

Organizational Communication

The concept of communication in this research process can take place in an individual and an organization/company or institution. According to Everett Rogers, the organization is a stable system of individuals working together to achieve common goals through a hierarchical structure and division of labor (Thoha, Miftah: 2008). An organization has organizational communication which is a source of life and dynamism as a means that connects all individuals in the company that flows in an organizational work pattern in every company activity. The use of the internet is the least expensive method of building branding compared to other traditional media. Social media plays an important role in product branding. The current digital era has been able to selectively encourage Indonesian people on social media to visit social media pages such as websites and Instagram.[6]

An agency, be it government, state-owned companies, government or private agencies, has a communication network that forms a communication pattern. Organizational communication is communication within the organization so that it becomes a source of life and business dynamics which is a means of connecting all individuals in the company to achieve communication goals. The output of this organizational communication is carried out to delegate tasks and work as well as to inform a company policy. Organizational communication is a discipline that can take legitimate and useful directions. (Wayne, Pace and Don F Faules. 2008). It can be defined as the display and interpretation of messages between communication units that are part of a particular organization. An organization consists of communication units in hierarchical relationships with one another so that they function in an environment. Organizational communication is carried out to improve the communication network within the organization itself. It also aims to find ways to improve the quality of work. The main objective is to understand the organization by describing its organizational communication, understanding the life of the organization, and discovering how life is realized through effective two-way communication between superiors and subordinates in a company.

Organizational Management

A company cannot be separated from its public, both the internal and external public. Internal publics are those who are directly involved in internal work while external publics are those who are outside the organization. In principle, the entire public must be served properly. But it is impossible for all of them to be served

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River, NJ: Prentice-Hall

6   APJII. (2017). *Infografis Penetrasi dan Perilaku Pengguna Internet Indonesia 2017*.Diakses 27 Februari 2020 dari https://apjii.or.id/ downfile/file/surveipenetrasiinternet201 8.pdf

because one will be different from the other public organizations. So that the dissemination of information cannot be evenly distributed to everyone, it is precisely this limited audience who always maintains communication both internally and externally. Therefore, public relations have its own scope in communicating with its audience as follows (Cutlip-Center-Broom 2006):

1) Recent developments show that the scope of public relations covers nine fields of work, including internal relations, a special part of public relations that builds and maintains good and mutually beneficial relationships between managers and employees on which the organization depends for its success.

2) Publicity: is information provided by outside sources used by the media because the information has news value. This method of placing messages is an uncontrolled method because the source of information does not pay the media to produce the information.

3) Advertising: is information placed in the media by a clearly identified sponsor who pays for the space and time of placing the information. It is a controlled method of placing messages in the media.

4) Press Agentry: is the process of imaging news and news-worthy events to attract the attention of the mass media and gain public attention.

5) Public Affairs: is a special part of public relations that builds and maintains relations between the government and local communities in order to influence public policy.

6) Lobbying: is a special part of public relations whose function is to establish and maintain relations with the government, especially with the aim of influencing the preparation of laws and regulations.

7) Issues management: is a proactive process of anticipating, identifying, evaluating, and responding to public policy issues that affect an organization's relationship with their publics.

8) Investor relations: is part of public relations in corporate companies that builds and maintains beneficial and mutually beneficial relationships with stakeholders and other parties in the financial community in order to maximize market value.

9) Development: is a special part of public relations in non-profit organizations

Public Relations Strategy

Public Relations is the concept of Public Relations oriented. Before and after the PR program is run, it needs to be accessed or maintained by Public Relations by forming a positive image of a product or service. If the image of the company, product, or service is positive in the eyes of the public, it will facilitate public marketing efforts to become customers in the role of public relations (Ruslan, Rosady. 2003).[7]

Strategy is a series of fundamental decisions and actions made by top management and implemented by all levels of an organization in order to achieve the goals of the organization in (Dananjaja: 20011) According to Rhenald Kasali in his book Public Relations Management, a Public Relations practitioner can take the following

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7 Ruslan, Rosady S. M. 2012. Manajemen Public Relations dan Media Komunikasi. Jakarta: PT Raja Grafindo Persada

steps in (Rhenald Kasali 2017):[8]

1. Presenting facts and opinions, both those circulating inside and outside the company. These materials can be obtained from mass media clippings within a certain period of time, by conducting research on speeches from the leadership, materials published by the company, as well as conducting certain interviews with interested or important parties. This is done in order to obtain data regarding the public's view of the company.

2. Tracing official company documents or studying historical changes. Changes are generally accompanied by changes in the company's attitude towards its public or so on. This is done in order to understand the vision and mission as well as the initial objectives of the establishment of an organization so that if there is a change it can be immediately identified.

3. Conduct a SWOT analysis. SWOT is strengths, weaknesses, opportunities, and threats. Although it is not necessary to analyze things that are beyond his reach, a PR practitioner needs to conduct a weighty analysis of the perception from outside and within the company of his SWOT. Because it concerns the future, image, culture, and potential of the company. The components of strengths and weaknesses are assessed from elements originating from within the company. While opportunities and threats are studied from the environment where the company or environment is located.

The Role of LIPI (Indonesian Institute of Sciences)

The establishment of LIPI has a long history. After going through several phases of scientific activity from the 16th century to 1956, the Indonesian government established the Indonesian Science Council (MIPI) through Law (UU) No. 6 of 1956. Its task is to guide the development of science and technology as well as giving consideration to the government in terms of scientific policy. In 1962, the government established the Ministry of National Research Affairs (DURENAS) and placed MIPI in it with the additional task of establishing and maintaining several national research institutions. In 1966, the status of DURENAS became the National Research Institute (LEMRENAS).

Since August 1967, the government dissolved LEMRENAS and MIPI with the Decree of the President of the Republic of Indonesia No. 128 of 1967. After that, the government based on MPRS Decree No. 18/B/1967 formed LIPI and accommodated all tasks of LEMRENAS and MIPI into the institution. Its main tasks are (1) to guide the development of science and technology rooted in Indonesia so that it can be utilized for the welfare of the Indonesian people in particular and mankind in general; (2) to seek scientific truth where scientific freedom, freedom of research and freedom of the pulpit are recognized and guaranteed, as long as they do not conflict with Pancasila and the 1945 Constitution; (3) to prepare the establishment of the Indonesian Academy of Sciences (since 1991, this main task was subsequently handled by the State Minister of Research and Technology by Presidential Decree (Keppres) No. 179 of 1991).

Along with the development of national capabilities in the field of science and

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8   Rhenald Kasali (2017). Manajemen Public Relations. Jakarta: PT Pustaka.

technology, scientific institutions in Indonesia are also experiencing growth and development. In response to this, reviewing and adjusting the main tasks and functions as well as the organizational structure of LIPI continues to be carried out. Among other things, the stipulation of Presidential Decree No.128 of 1967 dated August 23, 1967 was amended by Presidential Decree No. 43 of 1985. This is still being further refined by Presidential Decree No. 1 of 1986 dated January 13, 1986 concerning the Indonesian Institute of Sciences. Finally, improvements were made with the stipulation of Presidential Decree No. 103 Year 2001.[9]

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METHODOLOGY

The research is carried out in Jakarta, Indonesia from March 2020 to June 2021. This study is a postpositivist paradigm with a qualitative type, as well as a case study method. in the process of descriptive data analysis. In the first stage of this research, the researcher obtained data and facts from the events or activities that had been carried out in the form of an in-depth interview research analysis unit which was not only limited to a list of questions but also a source of website references and books. intensively, deeply, and comprehensively. The method used in this research is a case study. Case studies, according to Ardianto (Elvinaro Ardianto: 2010), is a research method that examines cases intensively, in-depth, and comprehensively. Case studies can be conducted on individuals or groups. Further, Ardianto mentioned that an institution or a number of institutions are observed in depth by making observations. Each group was researched and reported in depth. In the context of this research, the researcher sees that the Bureau of Cooperation, Law, and Public Rela-

9   www.lipi.go.id. Accessed January 20, 2021

10 Ibid

tions (BKHH) LIPI in the Openness of Public Information in Indonesia. [11]

In this case, the case study on management is a case that can be observed in depth through the interview process with resource persons, in order to find answers to how and why in the context of this research. Data Collection Techniques This research seeks to use various data sources (as much data as possible) that can be used to systematically research, observe, describe, and explain various aspects of an individual, group, program, organization, or event. So, the important point is dana "completeness " and "comprehensiveness". For the sake of completeness of the data, the data collection methods used in this study, the researchers took various data sources using various data collection techniques, that include:[12]

1. Primary Data. The data obtained directly from the research was carried out by researchers with in-depth interviews with employees of BKHH LIPI

2. Secondary Data. Data obtained through other sources that have been collected related to this research are in the form of documentation taken from various literature books, LIPI Company Profile and LIPI website.

Data obtained from in-depth interviews with informants/source persons and observations will be analyzed and confirmed so that researchers will categorize and classify data by sorting out which data is valid according to subject competence, authenticity, and triangulation of data from informants. [13]The following researchers describe the research subject that the researcher will conduct in an in-depth interview related to the research title: Bureau of Cooperation, Law, and Public Relations (BKHH) of LIPI in the Disclosure of Public Information in Indonesia. The researcher chose him as the key informant because he was the main Admin at the PERHUMAS Secretariat, from the beginning attended the initial meeting of the Indonesian Public Relations National Convention. He also plays an important role in terms of funding the KNH budget from various sponsorships. Here are the informants of this study:

1) Mila Kencana MA, as the head of the LIPI Public Relations Bureau
2) Yosi Marita, M.Pd as LIPI user/academic

RESULTS AND DISCUSSION

The research is carried out in Jakarta, Indonesia from March 2020 to June 2021. This study is a postpositivist paradigm with a qualitative type, as well as a case study method. in the process of descriptive data analysis. In the first stage of this research, the researcher obtained data and facts from the events or activities that had been carried out in the form of an in-depth interview research analysis unit which was not only limited to a list of questions but also a source of website references and books. intensively, deeply, and comprehensively.

The use of the internet is the least expensive method of building branding compared to other traditional media. Social media plays an important role in product

11 Elvinaro Ardianto. 2010. *Metode Penelitian Untuk PR Kuantitatif dan Kualitatif.* Bandung. Simbiosa Rekatama Media.

12 Robert K. Yin (2018). *Studi Kasus Desain Dan Metode.* Terj. Djauzi Mudzakir. Jakarta : Rajagrafindo Persada

13 Yusuf, A Muri. (2016). *Metode Penelitian: Kuantitatif, Kualitatif dan Pengelitian Gabungan*. Jakarta: Prenadamedia

branding. The current digital era has been able to selectively encourage Indonesian people on social media to visit social media pages such as websites and Instagram.

LIPI has 4 (four) types of social media, namely Facebook, Instagram, Twitter, and YouTube, each of which has a different number of followers. LIPI Instagram social media is one of the social media that has a large number of followers. This makes the LIPI PR Team focus on digital branding on Instagram. The digital branding process is also carried out using social media promotion methods on Instagram services. In addition, in digital media such as social media, audiences are high-intensity information seekers and social media is the only digital platform that carries out two-way communication between brand companies and audiences. Digital media is considered the best media platform for attaching brands to audiences because it can reach audiences effectively. It is easy for the public to access data that is not matched by good sources of information and digital literacy, which can lead to misinformation and misinformation and harm.

The Indonesian Institute of Sciences continues to make ways to maximize information services to the public, one way is through the website. The LIPI website has three functions, namely as a medium that creates LIPI consistency in the world community in particular, branding, as well as educating and enlightening the public. the importance of the website to popularize science to the people of Indonesia. Therefore, the LIPI website system should ideally be integrated into websites that support e-services based on Public Information Disclosure.

Website and social media management by the Public Relations Bureau in public information services led to actual and factual public information disclosure. Today, the main LIPI website has been active in publishing research results, patent findings, and intellectual property rights in science and technology. Periodic publications that are updated every day by the admin and integrated with social media Facebook fan pages which have around 57 thousand likes and Twitter with 22 thousand followers, in the future the LIPI website can be maximized in changing its appearance to be more millennial, as well as loading content that is directed at research results and contains expertise and is based on e-services. This is supported by optimizing social media like YouTube and Instagram.

The knowledge between social media managers, in this case, the LIPI website, is that they can optimize the use of sophisticated tools that support science and technology on the results of research studies to get maximum results in optimal website management, even though the LIPI website has limitations on periodic information updates, limited equipment, and funding. but the LIPI website is still able to be optimal and has been able to become a reference and reference for scientific information by the Indonesian people.

The output of research results from academics and practitioners is usually in the form of books and journals published and collected in the library as a reference for further research. Even though the results of the research should ideally be read widely and usefully and should be known by the public, this is the role of the website and social media of LIP I which requires a breakthrough in conveying scientific information so that it becomes light and easy to understand and reinforces a more positive LIPI image to encourage millennials and the public is interested in research.

This effort is carried out by using social media that is capable of displaying photos, audiovisuals, images, infographics, data tables, charts, and interesting captions so that millennials are interested as stated in Halimatus Sadiyah's article entitled "Program Restrictions on the Use of Smartphones in Children" namely Digital Natives is a term used to refer to the generation who grew up with new technology in the digital era / millennial generation. They are born and live and live surrounded by gadgets, and advanced technology such as computers, video games, digital music players, video cams, cellphones and toys, and other sophisticated tools that are used every day. Digital natives are the 'native speakers' of digital devices and the original generation of digital users who are well-versed in computers, video games, and the internet. This generation consists of those born after 1990. They are used to getting information quickly, and easily and prefer parallel and multi-task processes, prefer random access such as hypertext and prefer to fulfill media needs quickly, and are more inclined to future content. namely content in digital and technological forms (Prensky, 2001).

The use of websites and social media represents LIPI in a more positive image and can be used as a strategy in the institutional branding process with interesting and useful content for millennials and the wider community as an effort to encourage interest and make LIPI social media a national reference for information related to science and science and technology. technology.

CONCLUSION

The management of the LIPI website and social media (BKHH) in management of the LIPI website and social media by the Public Relations Team aims to achieve a positive image, becoming a verified, measured, actual and factual reference for scientific information. The LIPI Public Relations Team has made strategic plans, including mapping audiences on each social media owned so that they can make adjustments to the form of content. Social media and websites are proven to be able to improve effective communication between the community in conveying aspirations and input related to science and technology content. This of course can form a positive image of LIPI in the community. LIPI is expected to display scientific content instead of ceremonial information on websites and other social media as well as use popular language and use infographics, tables, images, and audiovisuals to attract millennials and the public.

SUGGESTION

Establishment of LIPI's branding as a humanist and solution-oriented research institution to answer community problems so that a positive image of the institution can be formed. The digital branding strategy through social media is quite effective in building the LIPI brand.

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REFERENCES

APJII. (2017). *Infografis Penetrasi dan Perilaku Pengguna Internet Indonesia 2017.*Diakses 27 Februari 2020 dari https://apjii.or.id/ downfile/file/surveipenetrasiinternet201 8.pdf

APJII. (2018). *Laporan Survei Penetrasi dan Profil Perilaku Pengguna Internet Indonesia 2018.* Diakses 27 Februari 2020 dari https://apjii.or.id/ downfile/file/laporansurveipenetrasi-inter net2018.pdf

Ardianto, Elvinaro. 2010. *Metode Penelitian Untuk PR Kuantitatif dan Kualitatif.* Bandung. Simbiosa Rekatama Media.

Biro Pusat Statistik, 2011. *Statistik Indonesia. Jakarta: Biro Pusat Statistik Industri Pariwisata dalam Mendukung Visit Indonesia Years 2009 – 2014.*

Cutlip, S. M., Center, A. H., & Broom, G. M. (2000). *Effective public relations* (8th ed.) Upper Saddle River, NJ: Prentice-Hall

Kasali, R. (2017). Manajemen Public Relations. Jakarta: PT Pustaka.

Littlejohn, S. W & Foss, K. A (2017). *Teori Komunikasi Edisi 9.* Jakarta : Salemba Humanik.

Program Pembatasan Penggunaan *Smartphone* Pada Anal. (Studi Kasus di RW 18 Leles, Condongcatur, Kabupaten Sleman). Jurnal PIKOM (Penelitian Ilmu Komunikasi dan pembangunan).Volume 21No 2 Desember 2020.

Ruslan, Rosady S. M. 2012. Manajemen Public Relations dan Media Komunikasi. Jakarta: PT Raja Grafindo Persada.

Shimp, Terence A. (2003). *Periklanan, Promosi Aspek Tambahan Komunikasi Pemasaran Terpadu.* Jakarta: Erlangga

Soehoet. (2003). *Media Komunikasi.* Jakarta : Yayasan Kampus Tercinta

Yin. Robert K. (2018). *Studi Kasus Desain Dan Metode.* Terj. Djauzi Mudzakir. Jakarta : Rajagrafindo Persada

Yusuf, A Muri. (2016). *Metode Penelitian: Kuantitatif, Kualitatif dan Pengelitian Gabungan.* Jakarta: Prenadamedia.

www.lipi.go.id. Accessed January 20, 2021

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