CONFERENCE OF EUROPEAN STATISTICIANS
Expert Meeting on the Dissemination and Communication of Statistics 25 August 2022
13-15 September 2022, Online

Social and Mass Media Engagement to Improve Statistical Business Process Literacy Evidence from Bali, Indonesia

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Abstract

Statistics and development are unavoidably connected. It is important to engage the policy maker and all parts of the society with the sufficient concept and definitions that are applied to the Statistical Business Process. The stereotypes on data and statistics are always complicated things instead of a key to understanding and solving the development problems. We could not let the data stand voiceless for misleading development and the problem should be addressed to avoid the misconception and misinterpretation of the data and statistical analysis that we provide monthly, quarterly, and annually. This study aims to evaluate how far the media has delivered and announced the statistical business such as censuses and surveys in a pleasant way. The qualitative and quantitative approaches are applied to figure out what is the result of the utilization of social and mass media in disseminating our statistical business process. The result is social and mass media efficiently get the stakeholder and society's awareness of the statistics business process by viewing the website, articles in mass media, infographics, and services through social media. On the other hand, there is also some adjustment required for those living in rural areas. Routine meetings and local government instruction are powerful enough to invite their attention to support the statistical business. Hereby, the strategy should be managed depending on the audience's target and their background. The right identification is a must at the very beginning of the business to choose what best practice should be applied.

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1. Introduction

Statistics Indonesia-BPS is the National Statistical Office in Indonesia responsible for conducting basic statistics including censuses and surveys. Statistical activities must apply business processes in accordance with the standard framework and harmonious statistical process terminology so that they can be compared in terms of methodology and other components. In addition, the data and metadata can be integrated with the documentation process. The standard framework applied to the business process of organizing statistical activities refers to the Generic Statistical Business Process Model (GSBPM) which can be defined as follows: a) standard framework that aligns with common statistical business processes; b) reference for the National Statistical Office (NSO) in the world; c) standard framework and harmonious statistical process terminology (BPS, 2019).

The Generic Statistical Business Process Model (GSBPM) defined by The European Union is a tool for generalizing and process-focused descriptions of statistics production. It serves as a common framework for work on statistics production in various aspects, including quality, efficiency, standardization, and process orientation inside and between statistical offices. There are eight core steps that are included in the GSBM framework as follows: 1. Specify needs; 2. Design; 3. Build; 4. Collect; 5. Process; 6. Analyze; 7. Disseminate; 8. Evaluate. Though the steps are not necessarily linear, the whole process should be arranged to produce high-quality statistics.

Engaging society in the statistical business process is unavoidably important. The reason is that only by the simultaneous participation of society, BPS can produce high-quality statistics. Moreover, the consumer of BPS data come from various backgrounds including government, entrepreneurs, academics, and many others so they need to be sufficiently educated on how to interpret statistics properly and do not to let the number voiceless. A better understanding is a prerequisite to developing evidence-based policy, research, or conducting estimation. Through the good user engagement, BPS can adjust the its business process, service and products to meet consumer demand.

Expanding the statistical business process could be conducted by utilizing the social and mass media platform. The scope and use of social media are expanding along with the global digital population. Social networks, has changed how the people engage with one another globally. These days, more people of all ages utilize such platforms, for matters of business, socializing, and daily communication. According to the Media Report from The UK and Hootsuite, Digital 2022: The Latest Insights Inti The State of Digital February 2022, each Indonesian spent 3 hours and 17 minutes for accessing social media. In addition, from around 277 million Indonesian people, 191.4 million people were an active social media users. In other words, there were around 68.9 percent active social media users in Indonesia in 2022. This figure also increased by 21.4 million, or about 12.6 percent compared to the previous year. The growing number of active global digital population suggest that there is an huge opportunity to make the Indonesian society be familiar with the statistical business process through social and mass media platform.

Despite the vast growth of information and communication technology (ICT), statistical and digital literacy in Indonesia remain a challenge. Jousairi (2018) mentioned that Indonesia and some developing countries were still data illiterate. Furthermore, the digital literacy of Indonesia was reported to be 3.49 in 2021. This number increased by 0.03 points from 3.46 in 2020 (Communication and Information Ministry and research company Katadata Insight Center). The report also mentioned that the digital skill and culture of the Indonesian netizen was improving but digital ethic and safety seem to be worsening during the time period. These results indicate that efforts need to be made to improve statistical and digital literacy in Indonesia.

Until this day, BPS, Statistics Bali along with 9 district offices as the representative of Statistics Indonesia in Bali province has managed various activities to socialize BPS's business process and the statistical products either online through social and mass media platforms or offline through collaboration with multilevel stakeholders including local government. However, there are no previous studies that investigate the advantages and drawbacks of different strategies applied for better statistical literacy. Due to that reason, this study aims to evaluate social and mass media engagement in improving statistical business process literacy and participation of the society in Bali.

2. Objectives

This study aims to highlight the strategy of utilizing social and mass media to disseminate the statistical business process. It is extremely important to engage the people during the statistical business process to minimize the bias of data collected. Hereby, this study emphasizes on how the social and mass media could support the statistical business process dissemination.

3. Methodology

This study utilizes the literature review and Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis to identify and describe the advantages of mass media and how the business process affects society's awareness. Statistics descriptive is used to figure the relationship between each social and mass media achievement for each statistical business process. Table and graphics are depicted to explain the condition throughout the period, so it is easily concluded. Meanwhile, the SWOT analysis is used to describe the situation and conditions being faced. This is not an analytical tool that can be used to drawn solutions of the problems.

SWOT analysis is a strategic planning method to evaluate the factors that influence the effort to achieve goals for both short-term and long-term goals. SWOT is a method used to evaluate the strengths, weaknesses, opportunities, and threats in a business. Generally, SWOT is described by a table on a large paper size to facilitate analysis of the relationship between its aspects. Making a SWOT analysis involves specific business objectives and identification of internal-external factors to achieve these goals. Hereby this analysis is used to compare and evaluate the gap which should be addressed and completed by one another platform to expand the better understanding of statistical business processes.

4. Result and Discussion

4.1 Mass Media Engagement

Media technologies that are used to spread information to large number of audiences are referred to as mass media. The main purpose of mass media is to disseminate numerous messages via radio, internet, magazines, newspapers, television, movies, and advertisements. BPS, Statistics Bali makes use of articles in the newspaper to promote the statistics produced. This platform enables more convenient communication of statistical indicators using everyday language and less technical idioms. In this way, the public is expected to be more interested in and better understand the information from the numerical data series provided. Some articles are also summarized in publications that can be accessed through the official website of BPS Bali at: bali.bps.go.id. (Figure 1)

Figure 1. Statistical business process dissemination through local and national newspapers

Source: BPS, Statisics Bali; Nusabali.com; detik.com; Radar Bali

Furthermore, this book aims to make statistical data easier for readers to understand by showing how to use statistics and indicators as a basis and decision-making tool in planning, policy, and scientific writing. Through understanding the current indications and relating them to a certain problem, it is expected that people's perspective on statistics could change. Statistical data is becoming more familiar to the common people and attached to their everyday life. 25 articles on social, political, and population issues, 16 articles on economics and tourism, and 9 articles on agricultural and environmental issues that compose this book shows that statistical data could be used to explain phenomenon in various field. Moreover, statistical data can make for an interesting source of reading and analysis.

Television is also still considerable as media to promote the statistical business process. Previous research on the title of Salomon's (1984) arguably most influential essay on the Amount of Invested Mental Effort (AIME) reads, "Television is "simple" while the text is "difficult". Salomon examined how much mental effort of school children expended when learning through television (TV) as opposed to learning from the text (i.e., a book). The findings revealed that children thought of television as a relatively simple medium, whereas they thought of print as a more challenging one (Schwab et. all, 2018). Some researchers also mentioned that television is still considered as the level of liveness attained. A typology of television sequences is given based on the mix of sounds (particularly the voice) and images, the aspect of continuity (appearance of liveness without certainty, as in in-game shows); edited (non-fiction and non-live, but influenced by the context of live television, as with some news reports and documentaries (Bourdon, 2000). In Bali, this phenomenon also still valid which makes the television as a proper mass media to disseminate the statistical business process.

The television also provides comparative advantages on their coverage to a massive society in their leisure time which is predicted as the right time to inform the audience a short explanation on something important such as statistics event, nowadays life statistics indicators such as business and economic trends etc. The socialization of Population Census 2020, Poverty Official Statistical News Release and some other pers releases were announced through television as follows (Figure 2).

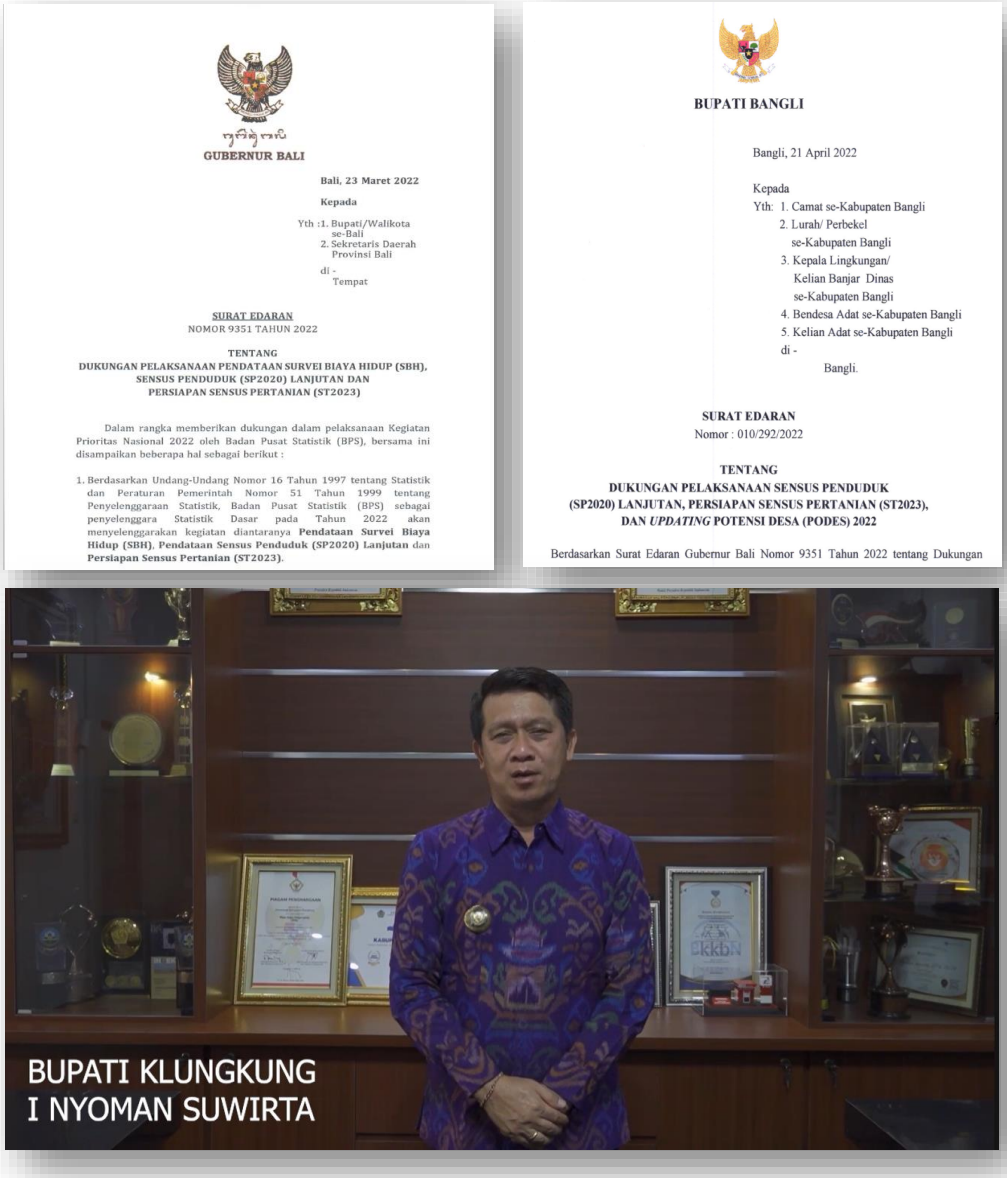
Figure 2. Statistical business process dissemination through local television station
Source: Bali TV; Nusa Bali TV; Kompas TV Dewata; Gatra Dewata

Radio also plays a vital role in today's world of time-hungry consumers reported by Wiltronics Research Pty Ltd 2021. It provides programming content that meets people's entertainment needs according to demographics, geography, ethnicity, and many more. Radio was everywhere, reaching consumers on air, online, and on-demand (Bunce, 2011). Whether the consumer is at home, at work, or in the car. Besides being portable, it's free for everyone. Not all local organizers or news reaches TV or newspapers. This is where local radio station comes in to provide local information. They come to local events and provide live coverage. This helps keep the community together. The radio announcement also considerably engaged the community, especially for those living in rural areas and the elderly. This media positively affects people's attention as it is available and flexible. Though some challenges may be related to the small group of audience, these media ensure inclusivity and not leave anyone behind as we aimed to get all of the people's participation to support the statistical business process. Population census, household surveys, and talk-shows on statistics indicators are managed to socialize the statistics business.

Figure 3. Statistical business process dissemination through the local radio station
Source: BPS, Statistics Buleleng; BPS, Statistics Bangli

Besides the media approaches above, the power of collaboration with multilevel stakeholders also contributes to better feedback and willingness from society to participate in the statistical business process. Local government enforcement has successfully proved that the circumstances positively affect people to choose whether or what kind of activity could bring them to engage with the government program. One of the importance of this effort is to get the society's attention and better understand how the development program related to the data that they informed and what will the policy be formulated based on the data. Examples of this media such as letters of instruction from the governor, letters of recommendation from the head of the

district, videos, and invitations to support the statistics enumerator with honest and truthful information. Somehow, We are also inviting their participation to welcome our enumerator, so the data collected hopefully representative of a better development which eventually brings the society to a better life.



GUBERNUR BALI

Bali, 23 Maret 2022

Kepada

Yth :1. Bupati/Walikota se-Bali
2. Sekretaris Daerah Provinsi Bali

di -
Tempat

SURAT EDARAN
NOMOR 9351 TAHUN 2022

TENTANG
DUKUNGAN PELAKSANAAN PENDATAAN SURVEI BIAYA HIDUP (SBH), SENSUS PENDUDUK (SP2020) LANJUTAN DAN PERSIAPAN SENSUS PERTANIAN (ST2023)

Dalam rangka memberikan dukungan dalam pelaksanaan Kegiatan Prioritas Nasional 2022 oleh Badan Pusat Statistik (BPS), bersama ini disampaikan beberapa hal sebagai berikut :

1. Berdasarkan Undang-Undang Nomor 16 Tahun 1997 tentang Statistik dan Peraturan Pemerintah Nomor 51 Tahun 1999 tentang Penyelenggaraan Statistik, Badan Pusat Statistik (BPS) sebagai penyelenggara Statistik Dasar pada Tahun 2022 akan menyelenggarakan kegiatan diantaranya **Pendataan Survei Biaya Hidup (SBH), Pendataan Sensus Penduduk (SP2020) Lanjutan** dan **Persiapan Sensus Pertanian (ST2023)**.

BUPATI BANGLI

Bangli, 21 April 2022

Kepada
Yth: 1. Camat se-Kabupaten Bangli
2. Lurah/ Perbekel se-Kabupaten Bangli
3. Kepala Lingkungan/ Kelian Banjar Dinas se-Kabupaten Bangli
4. Bendesa Adat se-Kabupaten Bangli
5. Kelian Adat se-Kabupaten Bangli
di -
Bangli.

SURAT EDARAN
Nomor : 010/292/2022

TENTANG
DUKUNGAN PELAKSANAAN SENSUS PENDUDUK (SP2020) LANJUTAN, PERSIAPAN SENSUS PERTANIAN (ST2023), DAN *UPDATING* POTENSI DESA (PODES) 2022

Berdasarkan Surat Edaran Gubernur Bali Nomor 9351 Tahun 2022 tentang Dukungan

Figure 4. Statistical business process dissemination through local stakeholder instruction
Source: BPS, Statistics Bali; BPS, Statistics Bangli; BPS, Statistics Klungkung

The power of collaboration allows the local governments to communicate their programs to address development issues. Through adequate statistics and good community involvement, efforts to accelerate development will be more efficient. Several studies on local government reveal that finding common solutions requires the integration of many areas of knowledge.

Building a network and fostering the ability to absorb new knowledge from others is necessary to find the right solution faster. In our case, local wisdom and cultural issues help enumerators to interact better so that the data collected during the statistical business process will be more accurate and representative.

Figure 5. Statistical business process dissemination through forum consultation public with multilevel stakeholders
Source: BPS Statistics Bangli; BPS, Statistics Gianyar; BPS, Statistics Denpasar

Looking at the various impacts of mass media in supporting statistical business processes, there are several points that are considered positive and things to be improved in the future in Table 1. It must be admitted that there are still many things that cannot be captured by only using mass media to communicate statistical business processes. However, better mapping will help the deployment process of statistical business processes stand out. Moreover, if certain methods are applied correctly to the audience at the right time and situation. The mass media can target a wider audience more efficiently although it requires great effort and vigilance on various possible threats.

Table 1. SWOT Analysis on mass media engagement on statistical business process

Strength	Weaknesses
1. Powerful to reach out those groups who have no access to digital sources for example in rural area with heterogenous audience 2. Higher enforcement as mandated by the local leaders and stakeholder 3. Quick response as it spread out 4. Personally touch as direct interaction is applied and sufficiently to deliver public message	1. Sometimes costly and too yesterday or not a fancy thing 2. The higher effort required to arrange the meetings schedule, invitation, place, appointment, etc. 3. Information may not deliver or not clearly to the audience or respondent targeted 4. Limited spaces available
Opportunities	**Threats**
1. The participation rate increases in a limited times or scheduled 2. Expanding the coverage to the remote or under coverage areas of respondent	1. Political interest maybe raised as the political figure exposed. For example, the contra government group probably leads to conflict of interest. 2. Disrupted coverage as lips service, the quality of content should be managed carefully

4.2 Social Media Engagement

Social media platforms are great for encouraging interpersonal interactions. This allows business users to interact with their target market and connect with online communities. The Global Web Index even found that social media interactions now consume 30% of a business' time online. This research will focus on the BPS, Statistics Bali's official YouTube account as one of the social media owned by the BPS, Statistics Bali. The analysis will provide a statistical report of site traffic based on several characteristics such as region, user age group and trends during January-August 2022.

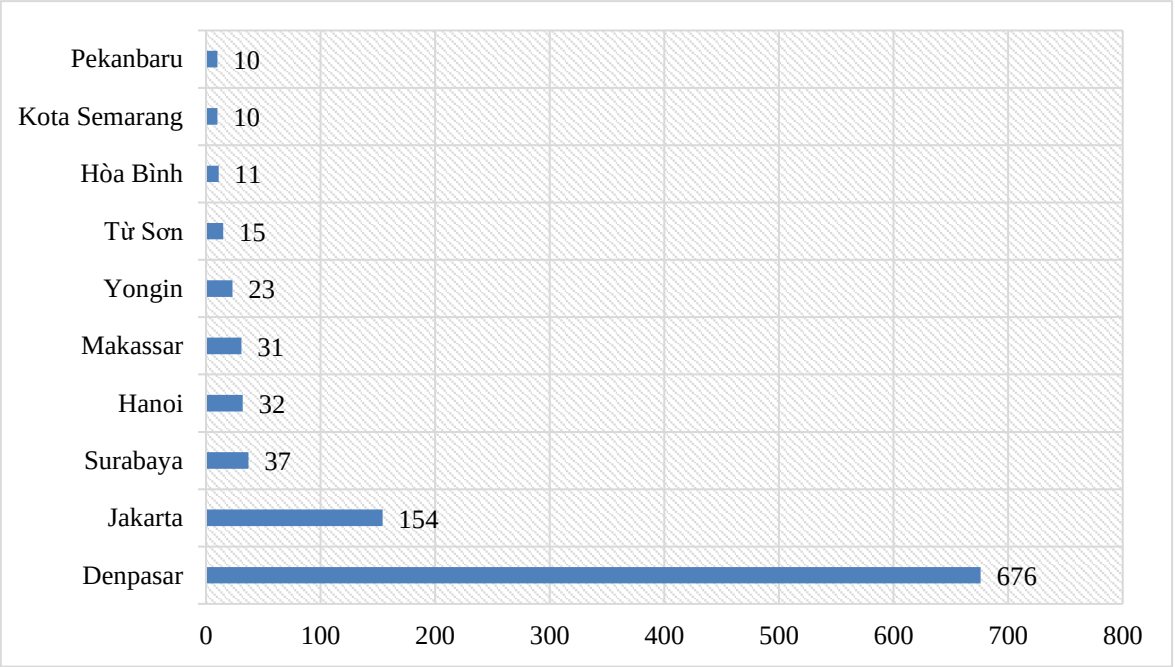


Figure 6. Statistics on official YouTube BPS, Statistics Bali by the viewer's domain city
Source: BPS, Statistics Bali YouTube Account

Figure 6 shows that most of the viewer of BPS, Statistics Bali YouTube account are the local people which come from Denpasar city, Bali. Despite that fact, the BPS, Statistics Bali YouTube account also drawn the viewers' attention from other big cities not only in Indonesia but also worldwide. In Indonesia, most of the viewer came from Jakarta while the foreigner viewers mainly came from Yongin, South Korea.

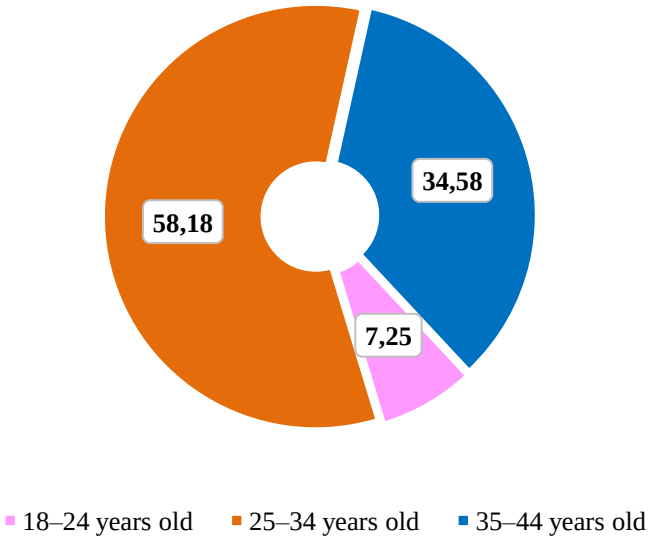


Figure 7. Statistics on official YouTube BPS, Statistics Bali by the group of age
Source: BPS, Statistics Bali YouTube Account

In general, the viewers of BPS, Statistics Bali YouTube were those who above 25 years old (25-44 years old) with 92.76 percent (see Figure 7). This percentage was shared between 25-34 years old and 35-44 years old groups by 58.18 and 34.58 percent, respectively. In contrast, the young people (18-24 years old) seem to be least interested with the content on BPS, Statistics Bali YouTube. Only around 7.25 percent of this group that access the YouTube channel of BPS, Statistics Bali during January-August 2022. This number suggest that YouTube as social media still an effective platform to gain the attention of the young people especially who are in the productive age group (25-44 years old) and left a room for an improvement on how to invite the younger attention in the upcoming effort.

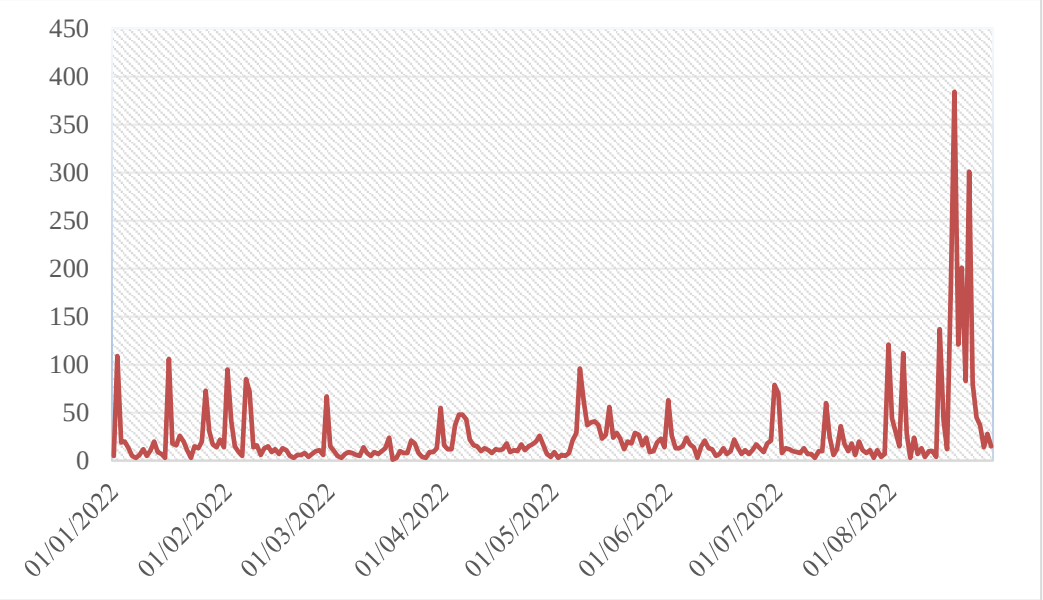


Figure 8. Statistics on monthly traffics of official YouTube BPS, Statistics Bali
Source: BPS, Statistics Bali YouTube Account

Figure 8 depicts the fluctuate movements on monthly traffics. Among all months, the traffics of BPS, Statistics Bali's YouTube channel reach its peak in August 2022. The total number of viewers at that time reach around 400 viewers which was four times higher than other months. This positive sentiment was aligned with the higher number and variation of the contents published at the BPS, Statistics Bali YouTube channel in August 2022 compared to other months. The contents published at that time included the quarterly economic growth report released, profile video of Statistician's Role Model in Bali Province, the Bali Governor supporting testimonial, and the launched of Secretariat Room of Agricultural Census 2023.

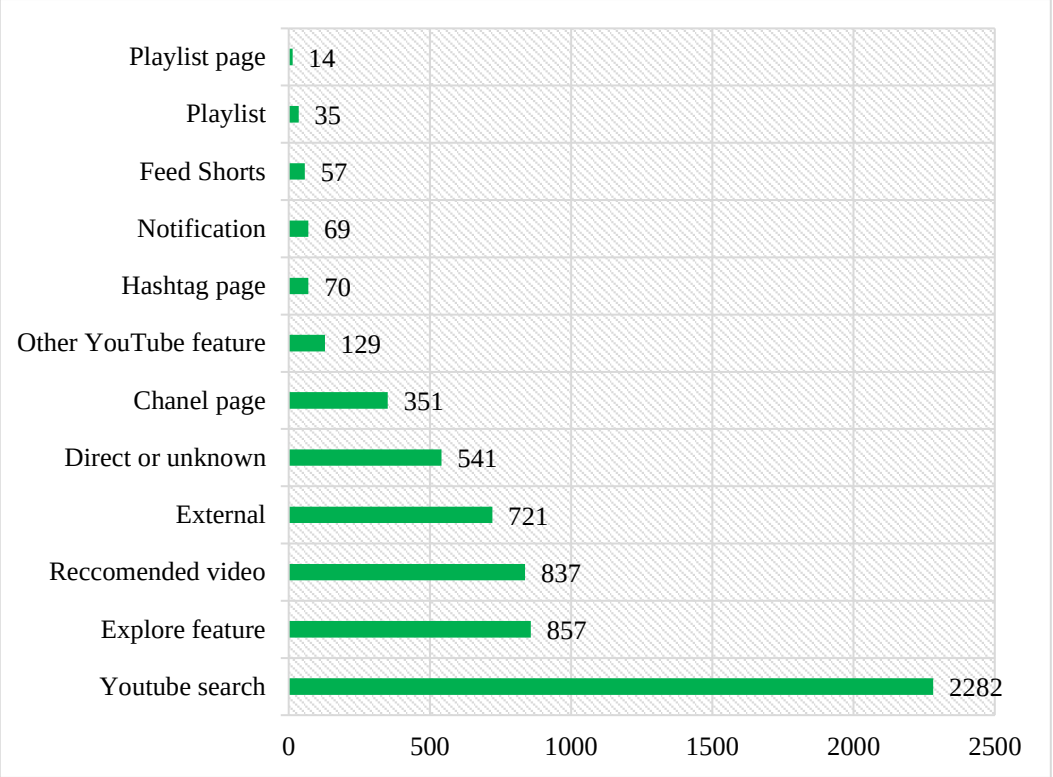


Figure 9. Statistics on traffics sources of official YouTube BPS, Statistics Bali
Source: BPS, Statistics Bali YouTube Account

Most of the traffics was come from the YouTube search by 2282 (see Figure 9). This result suggest that people are intentionally looking for the BPS, Statistics Bali's content or in other words people are curious about the content that are in the BPS, Statistics Bali. They already known about the organization and is predicted to explore the details information available on YouTube. This condition may reflect the positive engagement between BPS, Statistics Bali, and the social media users. According to the analysis discussed above, the SWOT analysis can be summarized in Table 2. The majority, of the strength of social media to spread out the statistical business process, is their flexibility, cost, and their fancy feature which connect people across borders along with entertainment aspects. On the other hand, during the disruption era, social media also comes up with several issues regarding digital security, hoax information, and other threats which may be the source of biased toward the lower level of digital literacy. Hereby, though some promising steps and potency leads by the dissemination through social media the drawbacks also should be considered and addressed properly.

Table 2. SWOT Analysis on social media engagement on statistics business

Strength	Weakness
1. Number of users are extraordinary compared to another platform 2. Offer more flexibility for audience who are mobile, borderless, and timeless 3. Cheap and lowest cost applied	1. Limited to the user without proper Internet of Things (IoT) 2. Easy to disrupt by other issues and topics with a huge wave of social media topics or trending 3. Requires visualization skills to develop an interesting content
Opportunities	**Threat**
1. Transformation to digitalization era 4.0 2. Growing number of social-media user 3. Government effort to develop supporting infrastructure to the (IoT)	1. Low digital literacy in disruptive information may constitute for a bias information or miss-understanding 2. The spread of Hoax or negative sentiments need to be addressed properly. 3. Digital security issues should be highlighted to guarantee the malicious spyware

4.3 Output and Achievements

The statistical data needs and the level of consumer satisfaction with BPS data and services in Bali Province is measured through the Data Needs Survey or *Survei Kebutuhan Data* (SKD). There were around 96 percent of the data users who were used BPS, Statistics Bali data for planning and evaluation in 2021. This number increased from the previous years where in the percentage of users that were used BPS, Statistics data for these purposes was 94.12 percent and 81.82 percent in 2020 and 2019, respectively. This suggest that the role of BPS, Statistics Bali increasingly important to support the relevant stakeholders in the formulation process of planning and evaluating the programs. The user satisfaction rate of the service, facilities, and infrastructure offered by BPS, Statistics Indonesia also increased. There were around 96.43 percent of the users who were satisfied

with the facilities and infrastructure provided by BPS in 2021. This number a bit higher that the previous year where the satisfaction rate reached around 93.06 percent in 2020.

The positive engagement of mass media also affects the statistical business process of BPS, Statistics Bali positively. As shown in Figure 10, there was a positive trend in the response rate of Village Potential or *Potensi Desa* (Podes) Survey in 2021. This condition happened after the local stakeholder instruction was released and spread in the society. Positive trends were showcased which is predicted indirectly affected by the mandated instruction to support the data collection process through a collaboration with multilevel stakeholders.

Figure 10. Response Rate of Village Potential Survey (Podes) Survey 2021
Source: BPS, Statistics Bali

5. Conclusions and Recommendations

Based on the result and discussion there are some important points that could be highlighted as the conclusion:

1. Social and mass media efficiently get the stakeholder and society's awareness of the statistics business process by viewing the website, articles in mass media, websites, and services through the respective medias.
2. On the other hand, there is also some adjustment required for those living in rural areas. Routine meetings and local government instruction are powerful enough to invite their attention to support the statistical business process.

As the result of the conclusion above, there are some recommendations offered are the strategy should be managed depending on the audience's target and their background. The right identification is a must at the very beginning of the business to choose what best practice should be applied.

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