Managing social media in development program of sustainable region

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Abstract. The Centre for Development of Sustainable Region (CDSR) is a collaborative centre of research and development led by Universitas Gadjah Mada. In its first phase of development, this centre comprises seven Indonesian universities and one US university. Two of three targeted outcomes of the CDSR are 1) strengthening institutional environment for research and management in involved higher education institutions and 2) development of sustainable archipelago region. During July 2017 – June 2020 CDSR has conducted more than a hundred activities. As a part of strategic tools in achieving the targets, CDSR systematically manages five social medias to share the news, research and activities using Facebook, Instagram, Twitter, YouTube and Website. This paper explains strategy to manage the social media platforms. Besides to share information and activities, social media is also managed as a tool to engage with people and institutions outside CDSR. During period started from February 2018 to June 2020 CDSR conducted intensive monitoring and evaluation on performance of CDSR information in the social media. The impression gained from Facebook, Twitter, Instagram, YouTube and Website are 90,387, 210,013, 45,454, 15,264 and 7,581 respectively. These impressions provide important information to evaluate continuous improvement in the program to develop sustainable archipelago region.

1. Introduction
Centre for Development of Sustainable Region (CDSR) was established to join a program called Sustainable Higher Education Research Alliances (SHERA) funded by USAID. In its first phase of development, CDSR comprises seven universities in Indonesia, including Universitas Gadjah Mada as a lead, Universitas Indonesia, Institut Teknologi Bandung, Institut Pertanian Bogor, Universitas Bangka Belitung, Universitas Negeri Gorontalo, Universitas Muhammadiyah Gorontalo, and the University of Colorado at Boulder in the USA as affiliates. The CDSR program was designed and then is applied as meeting point of many unique challenges, i.e. challenge of 1) applying various theories to the tropical area, 2) developing hybrid energy system which should manage different characteristics of renewable energy resources, 3) developing not only green building but also nearly zero energy building which requires optimum integration of renewable energy into the building, 4) designing sustainability of system whose horizon reaches to the life cycle of the system, 5) understanding of sophisticated
correlation among stakeholders and variables which demand not only multi-, but also trans- or even interdisciplinary approach, 6) building strong correlation between research and community service activities, 7) increasing institutional capacity in research management, 8) increasing capacity of researches to have significant role in international community, 9) managing dynamic of intensive program implementation while fulfilling rigid yet changing administrative and financial procedure and 10) implementing management mechanism which is also based on orientation of working comfort in running encouraging synergy.

CDSR conducted activities within the SHERA program from July 2017 to June 2020. Among the activities and output during the SHERA period are 46 papers in journals, 88 papers in proceedings, 52 research funds, several trainings, deploying 10 of its researchers to conduct collaboration with researchers at the University of Colorado at Boulder, as well as conducting management visits to five other universities in the USA.

In the era of the extensive use of the internet, social media provides prospective methods for researchers to publish and increase their professional profiles [1]. Social media also becomes an essential tool to spread information and communicate for adolescents [2]. The utilization of social media platforms such as Twitter, Instagram, WhatsApp, and Facebook could provide a faster and more convenient way than traditional communication platforms for information dissemination to society [3]. Meanwhile, stakeholder’s engagement is very important in achieving targets of various CDSR programs and activities. Therefore, CDSR uses social media as a part of knowledge, information, and research management. The research's products and various activities held by CDSR were published through social media. This research describes strategy and method applied by CDSR in research dissemination via social media from July 2017 until June 2020 and its impression analysis.

2. Literature Study
Social media is an internet platform used for spreading information through social interaction by providing content towards its users, social interaction and public membership [4][5][6]. Some social media are easily accessed and have various options, including involvement in an intimate community and other social activities [5]. The utilization of social media significantly increases in the last decade [7]. The society already gets used to utilize various social media platforms, including Facebook, Twitter, LinkedIn, Google+, and others. The increase of Facebook's active users for up to 2.498 billion, for instance, shows the trend [8]. Desjardins [9] described analysis within a minute that happened in various social media platforms during 2018 and 2019. It showed increasing user in almost all platforms.

Survey by Hootsuite [10] in January 2019 presented the utilization of the internet in Indonesia. It showed that 56% of the Indonesian population were active users in social media with YouTube as the most accessed platform, WhatsApp as the runner up, followed by Facebook, Instagram, and other platforms. Those social media users were dominated by 18 - 34 years old [11].
Furthermore, assessment of social media can be conducted through impressions analysis. Goffman firstly introduced Impression Management (IM) in the 1950s which came from dramaturgical and symbolic interactionist sociology theory [12]. IM theory shows someone's efforts to make, protect, and manage or change their image that had been known by society [13]. Thus, among the objectives of managing social media is to control public opinion or impression by controlling the information based on the social situation [14]. Meanwhile, an ongoing demonstration of social presence in an online environment requires reciprocity. The desire for ritual reciprocity can been seen to play out throughout online environments, with the ‘like’ button an example of how the ritual has been incorporated into the technology [15]. Comments and share or retweet are more indicative of how far other people have the engagement with a post [16].

3. Method
This research implemented a quantitative method. Data regarding impressions are collected through all social media platforms, while website visiting data are used to analyse the reach of social media. Three main stages were conducted in this research, including (1) data collection, (2) data analysis, and (3) writing recommendation based on CDSR’s social media.

4. Discussions
CDSR’s social media are managed by a person in charge (PIC) in managing all platforms, writing news reports, and publishing them through all social media channels. These responsibilities are challenging. Every two weeks, a new news report has to be uploaded into CDSR’s website. On several occasions, such as scholar exchange, the PIC has to write daily news reports to be uploaded on websites and social media. The news report could cover the research activities, the researcher's profile, or CDSR activities in general (meeting with stakeholders, monitoring and evaluation, etc.). The news sources are obtained from interviews with both researchers and management teams and reading the results of the CDSR activity (proceeding, journal, research report).

CDSR’s accounts in website and social medias operate since February 2018. The observation was conducted until June 2020. Analysis showed that the number of impressions obtained from Facebook, Twitter, Instagram, YouTube, and Website are 90,387; 210,013; 45,454; 15,264; and 7,581, respectively as shown in Figure 2.
Analysis was then conducted on posts to show the three posts with highest impression value in each platform. The results are presented in Table 1.

Table 1. Top three impressions in each CDSR’s social media platforms.

| Rank | Twitter | Facebook | Youtube | Instagram |
|------|---------|----------|---------|-----------|
| 1    | National Technology Day Exhibition in Bali, 2019 | Profile of Talha Dangkua | Research on Renewable Energy by researcher from Universitas Bangka Belitung | 4 CDSR’s researchers attended International Conference on Energy and Environmental Science (ICEES), Seoul, South Korea |
| 2    | Journal incentive announcement | Profile of Donny Koerniawan | Survey on Semujur Islands | CDSR Celebrates International Women’s Day |
| 3    | The story of scholar exchange; Donny Koerniawan | Profile of Wahri Sunanda | One Year Journey of CDSR | CDSR ITB Held International Conference on Renewable Energy and Sustainable Built Environment (ICRESBE) 2019 |

Impressions showed on Twitter are not focused on one topic, but more. The announcement regarding journal incentive was the first to be posted than the other two, but the exhibition topic, which had yet to
be posted for a year (per June 2020) attracted more impressions. Because the exhibition involved many parties, it could gain more attention from the communities, particularly Twitter users. For Facebook, the top three impressions came from the researchers' profiles. It is an interesting finding and could be a recommendation for the next activities. It shows that Facebook users probably tend to look for someone's profile. The strong impression could also be due to the broad reach in their Facebook accounts, or they are an essential person in their communities.

The news regarding Universitas Bangka Belitung dominated impressions on YouTube platform. From 18 videos uploaded by CDSR on YouTube, the top three included two videos regarding Universitas Bangka Belitung (UBB). As a university that keeps developing from year to year, the profile video regarding UBB and Semujur Islands in Bangka Belitung become promotional strategies managed also by the university management and regional government. The strong collaboration between UBB and the local government, both at the city and provincial levels, was probably the reason why those videos gained the biggest impressions.

The news in Instagram regarding four researchers who attended an international conference in South Korea came from Institut Teknologi Bandung. Three of them are women. The second biggest impression gained by the post informing celebration on the international women's day. The last in the top three was the impression of ITB's activity. Meanwhile, the five most visited news in CDSR website were:

1. Vacancies for Popular Article based on Academic Research, posted on May 27, 2019
2. USAID Team Visit CDSR for Financial Review, posted on March 12, 2019
3. Potential Development of Sea Wave Energy Technology in Indonesia, posted on 8 March, 2019
4. SHERA Program Launching, posted on March 21, 2017
5. Twelfth Day of the CDSR Scholars Exchange to USA: Discussion with Researchers from the Ecology and Evolutionary Biology Department, CU Boulder, posted April 18, 2019

The list showed no clear pattern on the topics for the most news viewed on the website. The most views went to a news which was posted at the beginning of the program, but in the middle of the program. Every news was also posted on all social media, but they produced a different number of visits. Most of the viewed news were job vacancies. The news spreading by various parties probably caused status of the most viewed of the news.

5. Conclusion
By managing all its use in social media platforms, CDSR gains several advantages, which are (1) engagement with new partners, (2) valuable comments on activities, (3) suggestion and recommendation for the research. Furthermore, the most significant benefit of using various social media platforms is building a connection with more stakeholders. Well managed social media accounts give big impacts. One of the impacts is a growing collaboration opportunity with other parties, which is among main resources for CDSR as a collaborative centre. These collaborations open opportunities for large scale and long-term outcome in developing the sustainable archipelago region.

Further analysis from the social or psychological aspect is recommended for next research. It could provide a guideline for researchers regarding an effective utilization of social media platforms for achieving targets of the research and development program.

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