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Utilizing Youtube and Tiktok Social Media as an Alternative of Food Safety Education

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Abstract

Food safety is one aspect of quality that is a necessity. Therefore, food safety needs to be well understood by all levels of society. Information related to food safety can be easily obtained in today's digital era through various social media. This ease of access needs to be balanced with the delivery of precise and accurate information. Attractive visualization as an illustration in educational design can increase new knowledge for the community. Youtube and Tiktok were chosen as educational media for delivering information related to food safety through the Community Service program. The education delivered on Youtube includes 2 types of information, namely the method of discussing the latest news and food safety in the form of courses at the Faculty of Agricultural Technology, Soegijapranata Unika. Short videos and animations related to microplastics and food safety were delivered through Unika's Food Tech Tiktok social media, targeting teenagers as the audience. Through this Community Service activity, public would get the reliable education or information about food safety from online media easily. Youtube and Tiktok viewers can also share important messages contained in the video to other social media accounts.

Keywords*: education, food safety, youtube, tiktok*

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Introduction

Food Quality and Safety have become a serious concern and need to be understood by all people. Food contamination can be found in every step of food chain such as production, handling, and consumption. The issue of food safety has been found in both print and social media news. The digital era is the time where social media user can access anything real time. The various information can be accepted by the public easily. The borderless information triggers the opportunity for various inaccurate information and can be mistakenly used as a reference by some people. Correct information from expertise is expected to provide correct knowledge for public regarding food safety culture.

Microplastic pollution has been widely known as a threat material for both marine ecosystem, aquatic life, and also human health (Hantoro et al., 2019). Their small size of microplastics are easily accessible to aquatic organism and accumulated along the food chain. According to the World Health Organization (WHO), microplastics found in drinking water can come from tap water treatment and distribution system and/or bottled water (WHO, 2019). The use of plastic has significantly increase recently due to Covid-19 pandemic. According to the Indonesian Institute of Science (LIPI), the increase of plastic waste during Covid-19 pandemic was caused by the increasing online shopping activities. The pandemic also has changed food consumption behaviour of many people such as utilization of delivery food services (LIPI, 2020). From 1095 respondents aged 15 years and over, it is shown that during the pandemic in Greater Jakarta, plastic waste from package delivery services increased 62%, while plastic from fast food delivery services increased 47%. About 8 million tons of plastic are dumped into the waters every year of which 1% is in the form of debris (microplastics) (Sarmah et al., 2018). It is estimated that the volume of plastic waste in water will be doubled in 2030 and many more in 2050 if it is not balanced with proper handling (Sarmah et al., 2018). Education about the impact of microplastics for human body is important for society. Education also needs to be balanced with a motivational invitation to change plastic consumption behaviour to create a healthy environment and life.

Based on the survey in 2016, about 132.7 million of 256.2 million Indonesian population were connected to the internet. This data shown an increase of 51.8% from 2014 (Susilo & Putranto, 2018). Youtube has become one of the most popular media for young people today and be an alternative platform to find various information in the form of videos (Rahmawan et al., 2018).

Listeners of conventional radio have also begun to switch accessing various content on the internet and taking advantage of various features in smartphones. Recently, radio media consumption in Indonesia is at the bottom list, while the highest media consumption achieved are internet and television (Fadilah et al., 2017).

Based on Nikkei Asia Data, Tiktok ranked first for the most downloaded applications in the world in 2020 which was at number four in 2019. Tiktok videos have a short duration with good design, audio, and display. Education with a short duration is the audience's choice to improve knowledge in their spare time. The use of Tiktok as an educational media has been proven to get a positive response from students and as an interesting and fun learning media (Fatimah and Hasanudin., 2020). The purpose of this Community Service Program is to educate the public regarding the issue of microplastics and current food safety threats and preventive measures that can be done by young generation.

Methods

The implementation of Community Service on Food Safety Education through social media was carried out in 2 topics:

1. Education and the latest news about Food Safety for students in Food Technology Department, Soegijapranata Catholic University
2. Covid-19 and microplastic education

   Topic 1 was published on Food Safety Arena Youtube Channel while education about Covid-19 and microplastic education was uploaded on the Unika's Food Tech Tiktok Page.

The process began with a discussion within the community service team about the topic to br raised. Work tasks from the team were arranged so that the plan could be delivered with the target in the right schedule of uploading videos regularly. During the planning process, equipment needed for the video recording process was prepared.

Food Safety educational videos were caried out in the Food Technology Department, Soegijapranata Catholic University by lecturers of Food Safety and Integrity Cluster Research. The microplastic educational video were made by the student team. In the microplastic educational video, motion graphics were added to make it more interesting and easier to deliver the information. After videos had been recorded, the step was followed by editing process. This

process involved all team to create the best quality of educational videos. The recording and uploading videos were carried out from September to October 2020, while the processing of microplastic video was conducted from April to June 2021.

Results and Discussions

Food Safety Educational Video (Youtube)

Educational videos provided in Food Safety Arena Youtube Channel are opened to the public. Students from Department of Food Technology, Soegijaprantaa Catholic University were required to view the uploaded videos that match to the course being taken. The resource persons in these educational videos were four lecturers from Food Safety and Integrity Cluster Research. Educational videos about Food Safety introduced to students before further explanation from lecturer in the online class. Those videos would increase the students understanding about particular topic of each course before going deeper into the subject in class. Food Safety Educational Video also consist of 2 news videos entitled News Glimpse-Covid-19 and Food Safety. Those videos aim to review the latest news related to Covid-19 and Food Safety. The two news topics covered Covid-19 and Food Safety and Accumulation of Plastic Waste during Covid-19 Pandemic. Covid-19 and Food Safety news video also discusses the ability of the Covid-19 virus to survive on various surfaces.

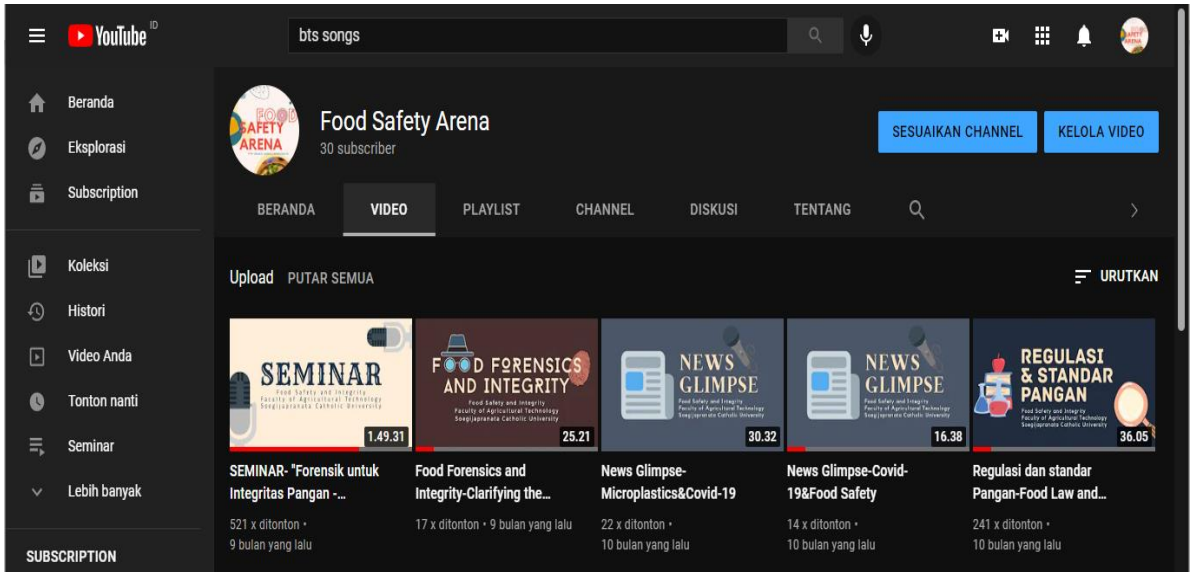

Fig. 1. Food Safety Arena Youtube Channel Page
(https://www.youtube.com/channel/UCMYbcEvdNY9LrWdiD8tXLeQ)

During September to October 2020, 12 educational videos had been shown on Food Safety Arena Youtube Channel. Food Safety Arena Youtube Channel page is shown in Figure 1. The number of viewers for every video can be seen below video description. In Table 1, the number of viewers for each video as of August 17th, 2021 is presented.

Table 1. List of Food Safety Educational Video Topics

Number	Published Date	Topic	Resource Person	Viewers (August 17th, 2021)
1	13-09-2020	Exploring Food Ecology: Introduction to Food Ecology	Prof. Dr. Ir Budi Widianarko, M.Sc	26
2	13-09-2020	Exploring Food Ecology: Matter, Energy and Life	Mellia Harumi, S.Si., M.Sc	330
3	13-09-2020	Exploring Food Ecology: Population	Prof. Dr. Ir Budi Widianarko, M.Sc	265
4	14-09-2020	Food Forensics and Integrity: Chemical Testing	Inneke Hantoro, S.TP., M.S	280
5	14-09-2020	Food Forensics and Integrity: Fundamental Concept of Food Forensics	Dr. B. Soedarini, S.TP., M.P	24
6	14-09-2020	Food Forensics and Integrity: Introduction	Prof. Dr. Ir Budi Widianarko, M.Sc	31
7	16-09-2020	Food Regulation-Building Blocks of Food Control	Prof. Dr. Ir Budi Widianarko, M.Sc	59
8	25-09-2020	Food Regulation -Principles of Food Control	Prof. Dr. Ir Budi Widianarko, M.Sc	31
9	28-09-2020	Food Regulation-Food Law and Regulation	Inneke Hantoro, S.TP., M.S	241
10	29-09-2020	News Glimpse-Covid-19&Food Safety	Prof. Dr. Ir Budi Widianarko, M.Sc	14
11	5-10-2020	News Glimpse-Microplastics&Covid-19	Inneke Hantoro, S.TP., M.S	22
12	19-10-2020	Food Forensics and Integrity-Clarifying the Concept of Food Authenticity	Prof. Dr. Ir Budi Widianarko, M.Sc	100

Fig. 2. Display of Educational Video on Youtube

Based on the data shown in Table 1, it can be seen that the number of viewers varied from 14 to 330 viewers. The difference in the number of viewers was due to the different number of students taking each course. To date, Food Safety Arena Youtube Channel have 30 subscribers. In the last 21 days until August 15th, 2021 the videos posted on the Food Safety Arena Youtube Channel have been watched 28 times. The most watched videos in this 1 month period is "Food Law and Regulation" by Inneke Hantoro, S.TP., M.Sc as can be seen in Fig 3.

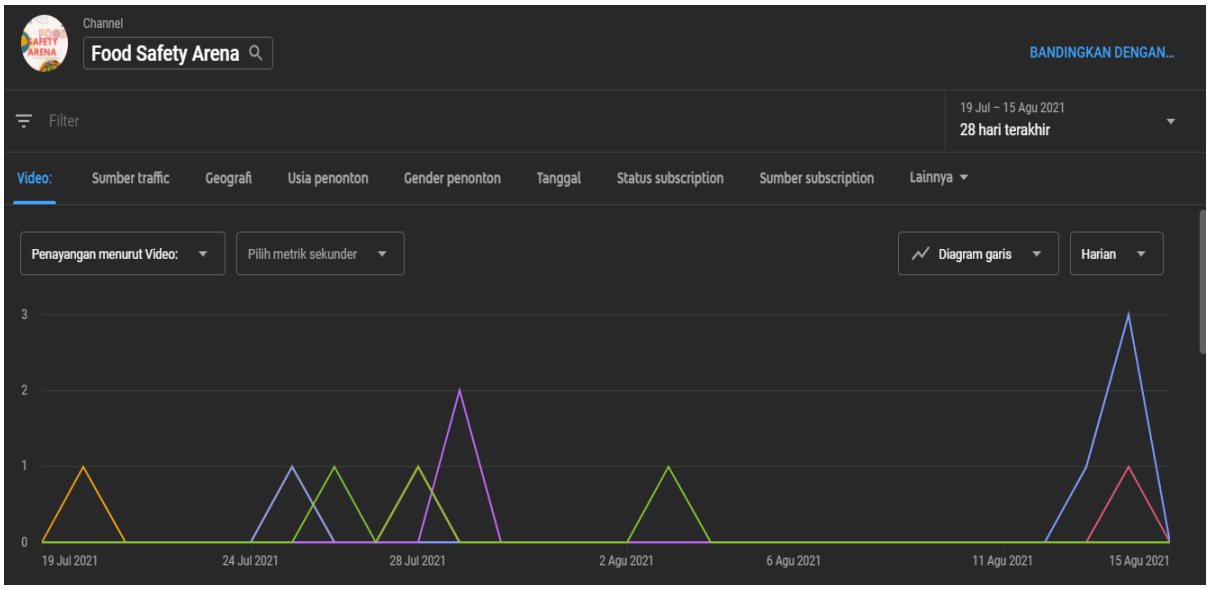

Fig. 3. Food Safety Arena Youtube Channel Audience Chart

Fig. 4. Traffic Source Video of "Food Law and Regulation" by Inneke Hantoro, S.TP., M.Sc.

As can be seen in Figure 4, about half of the viewers (50%) are from outside of Youtube who got this video link from other websites or applications, 6.5% of the viewers are from Food Safety Arena's subscribers, and the rest came from search effort (browsing) or feature suggestion. Viewers who access this video from outside Youtube get video links from other social media which members use as a means of sharing video links through their accounts. This will increase people's curiosity to open this link and watch this video. Based on the number of views, this would be a good start to make another video about food safety through social media in this era. New ideas, new topics and great animations and video designs still need to be improved to attract followers and other viewers.

Covid-19 and Microplastic Educational Video (Tiktok)

Food safety educational video through Tiktok involves participation from students. This activity resulted eight short videos which were divided into eight parts. Each video is a series of the main theme "Covid-19 Pandemic and Plastics Paradox: Challenges for The Future". The Covid-19 pandemic has brought society into the new norms, such as using disposable mask. Mask waste which is thrown into the environment can be degraded physically (wind, waves), chemically (UV radiation), or biologically (microbial activity) into micro-sized particles (<5µm) (Sharma & Chatterjee, 2017).

Exposure to microplastics into the human body can occur through breathing or digestion, but

the effect on human health is still not known with certainty. Research shown that accumulation of microplastics in animals caused poisoning and reduced immune response. Poisoning can be caused by the ability of microplastics to trap or carry other toxic pollutants and heavy metals (Koelmans et al., 2019). Education about microplastics and their threat to food safety needs to be continuously provided, especially for the young generation.

The involvement of students in this activity is to provide education about the important things in order to change lifestyle regarding the use of single-use plastics. Through this video, young generation can be more motivated and take the real steps for environment and health.

With short duration, Tiktok serves short information yet clear with more interactive pictures. The data report in June 2021 from App Annie showed that user spent 24 hours watching Tiktok content and 22 hours and 40 minutes watching Youtube. Tiktok's features make the video popular and go viral. People are easier to save videos they like and the videos which related to the favourite one will appear more often in their page. This will increase the viewers of the video.

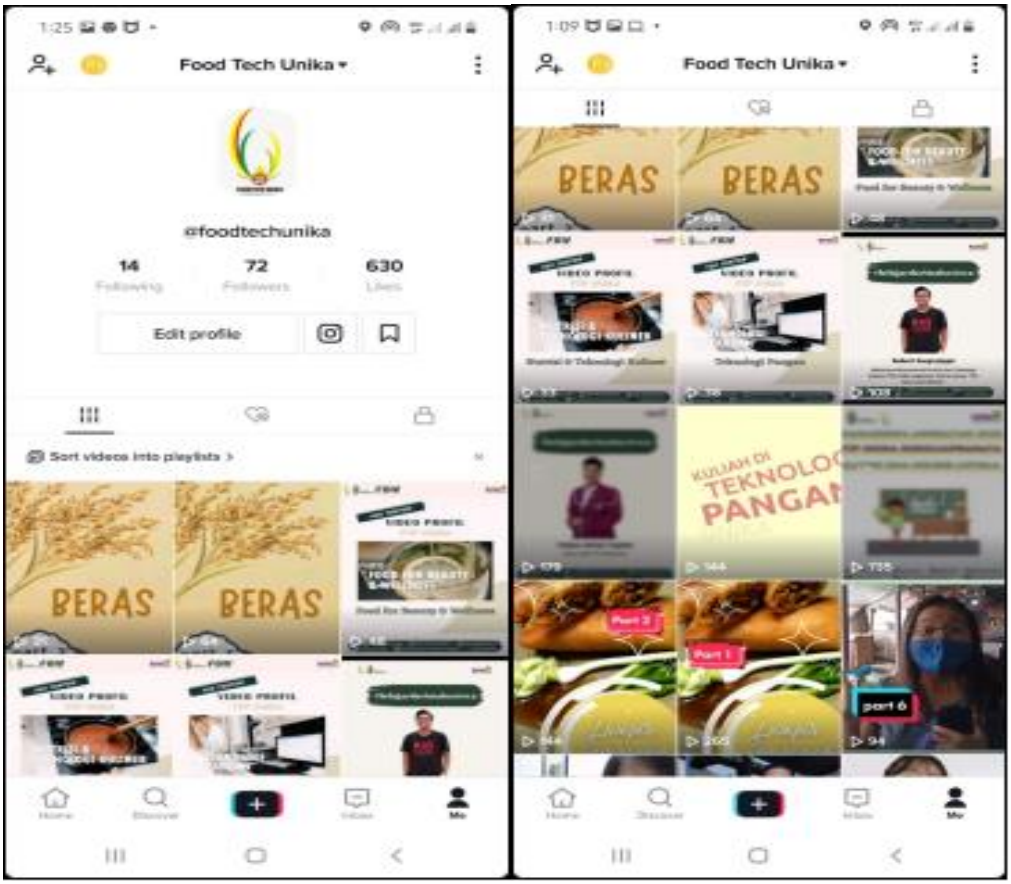

Fig. 5. Unika's Food Tech Tiktok Page (https://vt.tiktok.com/ZSdufeFtk/)

This activity began with a discussion process for determining the theme, compiling story boards, recording audio and videos, creating motion graphics and editing process.

Figure 5 shows Unika's Food Tech Tiktok Page with roughly 75 followers. Covid-19 and Microplastics Video consist of eight parts, such as introduction, sampling and laboratory test of microplastics in drinking water, and the other parts are action from students to invite society to reduce plastic waste. All videos have title and hashtag to make it easy to search. Details about the number of viewers can be seen in Table 2. The number of viewers as on August 17th, 2021 ranged from 92-125 viewers.

Table 2. List of Covid-19 and Microplastic Educational Video Topics

Number	Published Date	Topic	Viewers (August 17th, 2021)
1	14 -06-2021	*Part 1* *Introduction* *Covid-19 Pandemic and Plastics Paradox: Challenges for The Future*	92
2	14 -06-2021	*Part 2* *Sampling and Laboratory Test* *Covid-19 Pandemic and Plastics Paradox: Challenges for The Future*	123
3	14 -06-2021	*Part 3* *Action from Students* *Covid-19 Pandemic and Plastics Paradox: Challenges for The Future*	104
4	14 -06-2021	*Part 4* *Action from Students* *Covid-19 Pandemic and Plastics Paradox: Challenges for The Future*	98
5	14 -06-2021	*Part 5* *Action from Students* *Covid-19 Pandemic and Plastics Paradox: Challenges for The Future*	106
6	14 -06-2021	*Part 6* *Action from Students* *Covid-19 Pandemic and Plastics Paradox: Challenges for The Future*	100
7	14 -06-2021	*Part 7* *Action from Students* *Covid-19 Pandemic and Plastics Paradox: Challenges for The Future*	125
8	14 -06-2021	*Part 8* *Action from Students* *Covid-19 Pandemic and Plastics Paradox: Challenges for The Future*	104

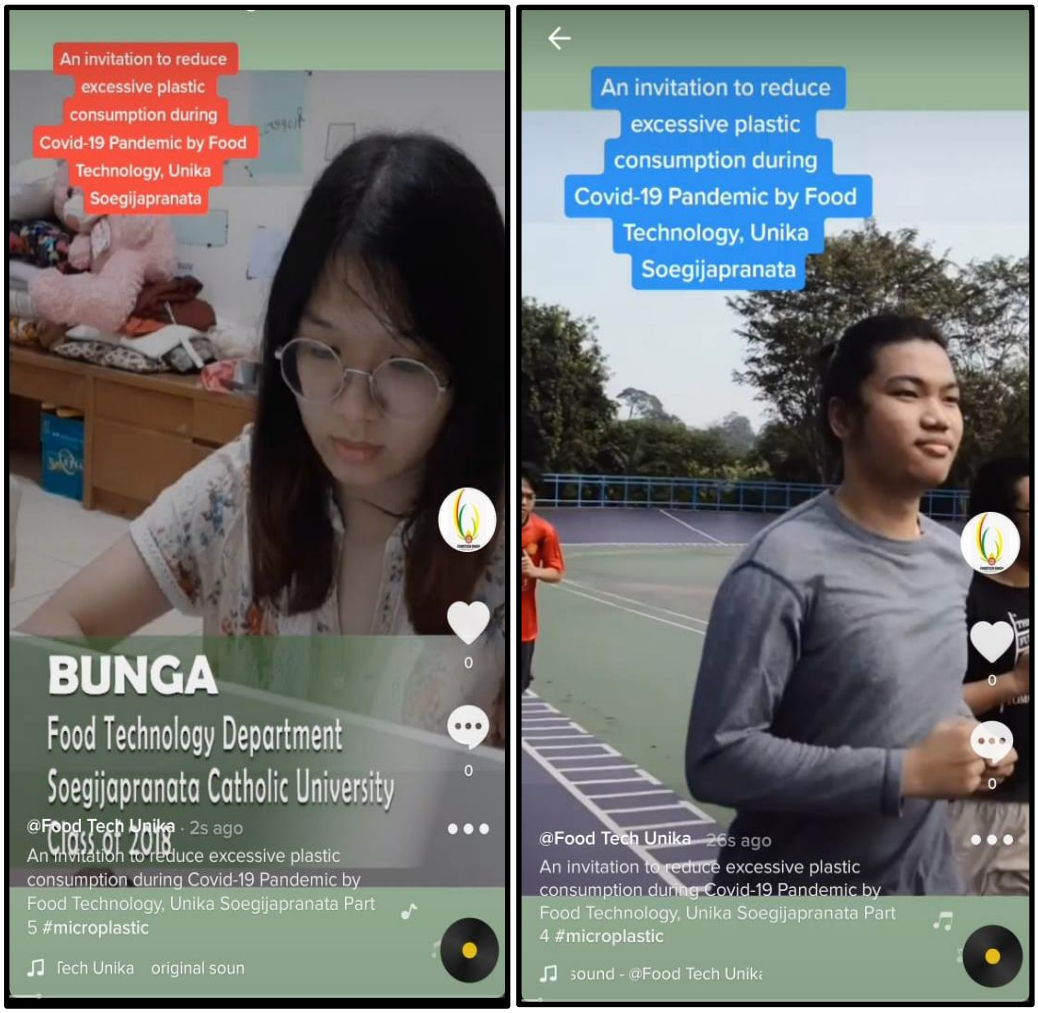

Fig. 6 Display of Educational Video on Tiktok

Based on the number of viewers and the favouritism of young generation, especially Gen-Z, social media like Youtube and Tiktok would be good alternatives to educate children, based on the easy of use and accessibility, and the variation of the content. This education will be continued by using other kind of applications in social media to reach and educate more people and more range of ages. Nowadays, learning from various alternative media is quite easy, especially for children who need an attractive and conducive learning environment. This is related to the research of Halim et al., 2021 which explains that pictures or murals can have a positive impact on children's learning.

Conclusion

Education through social media like Youtube and Tiktok have given significant results seen from the number of viewers for each uploaded video. Fun and interesting educational models

can be used for delivery of accurate information. Videos on social media are continuous and will always leave traces, so the reliable information is needed.

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