Factor analysis of digital storytelling on Tiktok affected to media exposure and utilization during the COVID-19 pandemic

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Abstract

The purpose of this research was to analyze and confirmatory the factors of digital storytelling on TikTok that influence media exposure and utilization during the COVID-19 pandemic. A random sample of 500 undergraduates between the ages of 18 and 25 who have used or have a TikTok account and have been exposed to information on the COVID-19 pandemic were studied using a quantitative research method. The findings revealed that digital storytelling on TikTok consists of five factors: 1) story, 2) multimedia, 3) sound presentation, 4) photo and duration, and 5) official storytellers. The digital storytelling model on TikTok is adequate and consistent with empirical data (x^2 = 1301.454, df = 462, x^2/ df = 2.817, GFI = 0.941, AGFI = 0.920, SRMR = 0.038, RMSEA = 0.078, CFI = 0.961). During the COVID-19 pandemic, the story and multimedia factors had the highest impact on undergraduate students' media exposure, while the story, photo, and duration factors had the biggest impact on undergraduate students' news utilization. Moreover, the research revealed that there is a correlation between the media exposure and utilization of undergraduate students during the COVID-19 pandemic.

Keywords: digital storytelling, TikTok, media exposure, utilization, COVID-19

1. Introduction

In December 2019, the People's Republic of China reported the first case of a new coronavirus infection or coronavirus 2019 (COVID-19) in Wuhan, the provincial capital of Hubei. The disease has rapidly spread throughout various nations around the world. Therefore, the World Health Organization has declared the 2019 coronavirus disease epidemic a Public Health Emergency of International Concern (PHEIC), and the National Committee on Communicable Diseases issued a statement in 2020 to define it as a severe contagious disease (Department of Disease Control, 2021). The pandemic has impacted more than 210 nations, resulting in an increasing number of cases and deaths globally, and it continues to spread in the current time. Social distancing is one of the most important measures that the world has taken to prevent the spread of COVID-19. As a result, people have had to adapt to a new way of life, especially during the pandemic in 2020, when the majority of people had to stay at home and social media communication became quite popular. According to the survey, there is a rise in the percentage of people using multiple platforms to reduce stress and interact with others when social distancing is essential. Global Digital Report (2021) report statistics regarding the use of social media around the world during the year 2020 found that the number of people using social media online has increased to 3.71 billion compared to 3.46 billion in 2019, and the number of users worldwide has increased by more than ever before to 4.20 billion in 2021, a 13.2% increase from the previous year. In Thailand, there is an increase of 78.7% of the entire Thai population in social media users. TikTok's platform has shown the most remarkable growth.

TikTok is a prominent microblog-style social media platform during the current COVID-19 epidemic. According to the results of the survey of global usage data, the number of TikTok users jumped dramatically in 2020, reaching 689 million individuals globally (Global Digital Report, 2021). In Thailand, there was a 44% increase in downloads in 2021, 71% of each user's time spent on the platform, and there was a significant increase in time spent each

time. Up to 47% and more than 50% of people aged 18 to 34 use TikTok (The standard wealth, 2021). TikTok is highly popular among young people (Jaffar, Riaz, & Mushtaq, 2019) since it is a platform that offers simple storytelling techniques in the form of short video clips. The length of clip is shorter than three minutes, this takes less time to create and it's also published rapidly, and then includes stories about daily life or various societal topics, such the COVID-19 epidemic. During this time period, according to the article, several research studies have focused on TikTok (Basch et al., 2021; Li et al., 2021; Southwick et al., 2021; Unni & Weinstein, 2021; Zhu et al., 2019).

However, despite the fact that the COVID-19 epidemic may not be the primary reason users are exposed on TikTok, it is undeniable that creating content rapidly and in a short period of time is the primary role of TikTok to communication and transmission of COVID-19-related content on TikTok. Importantly, it was discovered that scholars, medical professionals, journalists, COVID-19 patients, various news agencies, and public health organizations play an essential role in providing information about COVID-19 so that individuals and their families may manage and prevent themselves. The researcher is therefore interested in studying and analyzing the factors of digital storytelling on TikTok affected media exposure and utilization of news or contents related to the COVID-19 epidemic situation. Three questions were asked as a guide for this study:

(i) What are the factors of digital storytelling on TikTok?

(ii) Are the factors of digital storytelling on TikTok consistent with the theoretical concepts?

(iii) Whether these factors are suitable for building a digital storytelling model on TikTok that will affect media exposure and utilization during the COVID-19 epidemic.

Hence, the purpose of this research was to analyze and confirmatory the factors of digital storytelling on TikTok that influence media exposure and utilization during the COVID-19 pandemic.

2. Literature Review

2.1 Digital storytelling

According to Davis and Weinshenker (2012), digital storytelling is a is a short format of digital media creation that enables ordinary people to create and share their individual stories on websites and social media with content, images, and sounds such as still images, animations, drawings, video clips, graphics, infographics, music, or sound effects. Digital storytelling has seven factors: 1) point of view, 2) story's main topic, 3) story's emotion, 4) story's length, 5) voice and sound, 6) image, and 7) presentation (Lambert, 2013; Robin, 2011; Walter & Gioglio, 2014). In other words, digital storytelling helps convey the knowledge and diverse experiences of the storytellers by utilizing all seven factors while communicating all stories via digital media.

According to the findings of Li et al. (2021) found that the most of COVID-19 storytelling on TikTok consist of acting, animated infographics, documentary, news, oral speech, pictorial slideshows, and TikTok dance. Video's content included anti-stigma/anti-rumor, disease knowledge, encouragement, personal precautions, recognition, societal crisis management, and work reports. Moreover, videos conveying concern emotions, COVID-19 susceptibility and severity, precaution response efficacy had higher user engagement. This is consistent with the findings of Zhu et al. (2019) discovered that content that promoted professional health or provided knowledge of diseases was frequently viewed. Content containing original music, formal language, subtitles, and which lasted less than 60 seconds, were most frequently followed. The majority of studies examined digital storytelling on Facebook, while the factors of digital storytelling on TikTok were not studied. This limitation strengthens the argument for the present study, which tries to fill a gap in the previous studies.

2.2 Media Exposure

Media exposure is a four-step process of deciding to acquire news or news exposure: selective exposure, selective attention, selective perception and interpretation, and selective

retention, respectively (Klapper, 1960). Individuals will not choose to be exposed to all news; rather, their exposure will be determined by their prior experiences, perspectives, beliefs, attitudes, and requirements. Individuals must be interested in the content before deciding to accept and use it for their own and their families' benefit. The majority of audiences are quite likely to be exposed to relevant and valuable content from the media, specifically TikTok, especially in the context of the global COVID-19 pandemic that threatens human life. (Basch et al., 2021), such as wearing face masks, hand sanitizer, other cleaning products (Southwick et al., 2021), or pragmatic health information (Ostrovsky & Chen, 2020).

In measuring whether a person is exposed to more or less news, it can be measured from period of time a person is exposed to the media, such as the duration of media exposure and frequency of media use (Mcleod & O'Keefe, jr, 1972). According to Reaosuksan, Suttiyothin, and Kachentaraphan (2019), the period time, duration, location, attributes of media exposure, and favorite topics are variables in the study of online media exposure behavior of audiences. These characteristics play a significant role in the researcher's research of the factors of digital storytelling on TikTok that influence media exposure of the COVID-19 epidemic. And based on previous research, there are few studies on how digital storytelling on TikTok influences people's news exposure, particularly during the COVID-19 pandemic. Therefore, the researcher is interested in examining the issue.

2.3 The utilization of news on social media platform

Katz et al. (1973) described the use and gratification theory in two points. First, the audience is described as an active user who benefits from media exposure by personally experiencing news, and second, the audience can benefit from the information provided by the media. According to this concept, the audience is an active audience that seeks to achieve the defined goal through the use of media. In other words, the audience is responsible for selecting news or information to meet their needs and using the acquired content as a means of satisfying (Sothanasathien, 2016), relieving

stress (Severin & Tankard, Jr., 2014), satisfying one's own needs, self-management of information, and guiding family members (Trakulthatcharoen, 2016).

According to Ostrovsky and Chen (2020), the coronavirus disease 2019 (COVID-19) epidemic has boosted the use of social media through social media users, sharing with people, and enhancing the capacity of other individuals to contact with others or seek information from the outside world. Southwick et al. (2021) found that TikTok users are using content about health and risks to mitigate and prevent the spread of COVID-19 both themselves and those around them (Unni & Weinstein, 2021), especially, the latest epidemic news and government crisis management will greatly affect public participation in government social media. (Chen et al., 2020). Therefore, the research framework might be defined as follows, based on the review of theoretical concepts and literature reviews:

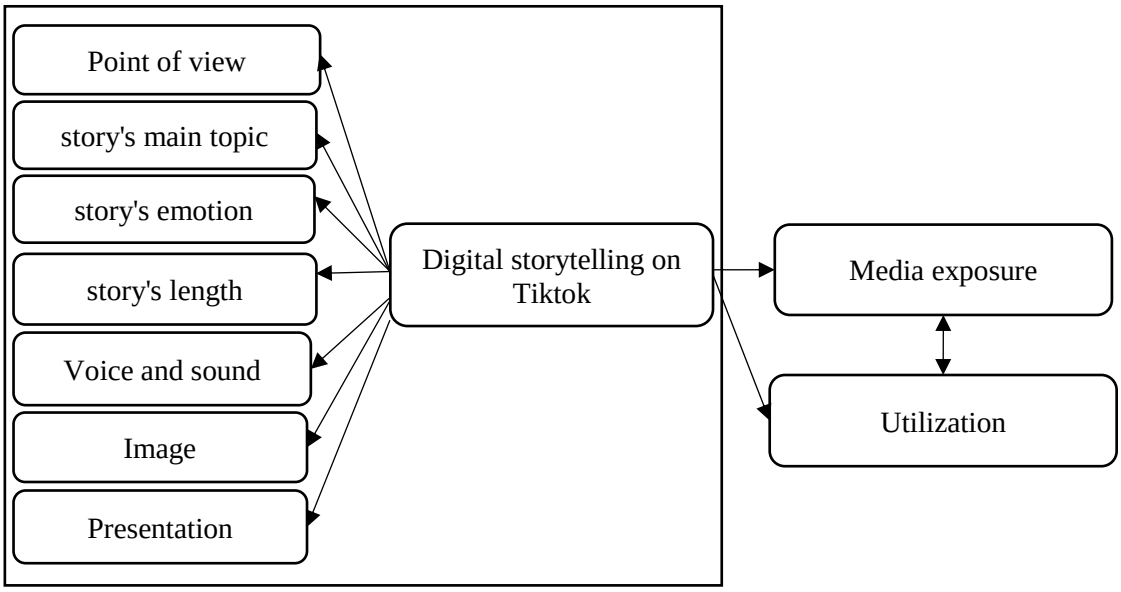

Figure 1 Conceptual framework

3. Research Methodology

3.1 Sample

The sample of this research is 500 undergraduate students, of all genders, who studying at universities in Thailand. For determining sample size, the researcher relied on Tabachnick and

Fidell (2013), who stated that an appropriate sample size for factor analysis should be more than 500 individuals. Accidental random sampling was used to select samples that had been exposed to information regarding the COVID-19 pandemic (2020 - present). There were 378 females (75.60%), 119 males (23.80%) and 3 alternative genders among those who responded, with an average of 20 - 21 years old (43.60%). The majority of responders are in their third year (41.40%) and earn more than 15,001 baht each month (32.00%).

3.2 Instrument

The researcher used questionnaires as a tool for data collection in order to analyze the factors of digital storytelling on TikTok (Lambert, 2013; Robin, 2011), media exposure (Reaosuksan et al., 2019; Tangkijthavorn, 2015) and the utilization of information on social media platform (Trakulthatcharoen, 2016). The questionnaire was divided into five sections with a total of sixty-three items, comprising screening questions, demographic characteristics, and media exposure by using closed-ended questions. On a five-point scale ranging from 5 (most agreeing) to 1 (least agreeing), participants responded to questions about the factors of storytelling and the utilization of information. The content's validity was then examined by three experts. The questionnaire was then employed in a pilot study with thirty participants. The reliability of this questionnaire was 0.97.

3.3 Data collection and analysis

This study collected data from an online sample. The data analysis consisted of four parts: initial data analysis with descriptive statistics, exploratory factor analysis (EFA) with principal component analysis, and orthogonal rotation using the varimax approach. The EFA's findings were then designed to generated a model for digital storytelling on TikTok factors. Confirmatory factor analysis (CFA) to verify the structural validity and consider the correspondence between model and the empirical data. According to Sarnratana (2013), the goodness of fit of the models was investigated using a variety of statistics, including the chi-square

($\chi 2$), degree of freedom (df), p-value, the ratio of $\chi 2$ divided by the df ($\chi 2$/df), the root mean square error of approximation (RMSEA), the standardized root mean square residual (SRMR), the comparative fit index (CFI), and goodness-of-fit statistic (GFI). As Sanratana (2013) advice for deciding model fit, values of less than 3.00 for $\chi 2$/df, less than 0.08 for RMSEA, less than 0.05 for SRMR, equal to or greater than 0.90 for CFI, and equal to or greater than 0.95 GFI are considered acceptable. And inferential statistical analysis, including multiple regression analysis and Pearson correlation analysis, to analyze the factors of digital storytelling that influence media exposure and utilization and the relationship between the two.

4. Results

1) Exploratory factor analysis

The results were revealed here to answer the first research question; the data collection of 500 questionnaires was analyzed using the EFA method. Principal component analysis with varimax rotation and Kaiser normalization was used to obtain conceptually similar and significant of factors of digital storytelling on Tiktok variables. Eigenvalues greater than 1.00 were calculated. The Kaiser-Meyer-Olkin (0.960) and Bartlett sphericity tests ($\chi 2 = 14172.081$, df = 780, p = 0.00) for sampling adequacy were significant, stating that the data were suitable for generalized analysis. Varimax rotation yielded six significant factors from the fifty variables (Table 1).

Table 1 Total variance explained for digital storytelling on Tiktok factors

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	17.802	44.505	44.505	17.802	44.505	44.505	7.210	18.024	18.024
2	2.512	6.280	50.785	2.512	6.280	50.785	5.933	14.833	32.857
3	1.747	4.366	55.152	1.747	4.366	55.152	3.883	9.708	42.566
4	1.368	3.420	58.572	1.368	3.420	58.572	3.825	9.563	52.129
5	1.297	3.244	61.816	1.297	3.244	61.816	2.900	7.249	59.378
6	1.152	2.879	64.695	1.152	2.879	64.695	2.127	5.317	64.695

Table 1, there are six factors with eigenvalues greater than 1, the cumulative variance of the six factors was 64.695%, and all of the communalities for each variable were greater than 0.500, with the majority being greater than 0.764. However, when considering each factor typically contains at least three variables and set factor loading greater than 0.500, the 6th factor that failed to load was deleted. The five factors containing the final 35 variables (Table 2) are named, respectively: 1) story (STO) 2) multimedia (MUL) 3) sound presentation (SOP) 4) photo and duration (PHD) and 5) official storytellers (OST). Factor loading ranged from 0.500 to 0.760. Cronbach's alpha coefficients were acceptable for the majority of the five factors in terms of internal consistency and reliability.

STO, MUL, SOP, PHD, and OST had values of 0.94, 0.91, 0.84, 0.689, and 0.84, respectively. Cronbach's alpha was 0.96 for the overall structure.

Table 2 Factor loading and communality results

variables	Factor loading					Extraction
	STO	**MUL**	**SOP**	**PHD**	**OST**	**communality**
Q12	0.783					0.717
Q10	0.782					0.760
Q11	0.742					0.703
Q7	0.700					0.723
Q9	0.671					0.687
Q17	0.635					0.672
Q8	0.620					0.660
Q13	0.613					0.602
Q4	0.536					0.510
Q18	0.535					0.625
Q3	0.523					0.563
Q14	0.500					0.567
Q28		0.748				0.688
Q29		0.730				0.618
Q30		0.714				0.596
Q40		0.669				0.576
Q31		0.658				0.601
Q32		0.650				0.632
Q43		0.616				0.629
Q41		0.578				0.625

variables	Factor loading					Extraction communality
	STO	MUL	SOP	PHD	OST	
Q42			0.696			0.587
Q35			0.651			0.601
Q44			0.623			0.505
Q48			0.609			0.576
Q45			0.578			0.500
Q37			0.533			0.629
Q36			0.511			0.587
Q22				0.721		0.754
Q21				0.687		0.734
Q20				0.677		0.760
Q23				0.562		0.652
Q6					0.798	0.758
Q5					0.718	0.665
Q1					0.584	0.658
Q2					0.559	0.611
Eigenvalues	17.802	2.512	1.747	1.368	1.297	
% Explained	44.505	6.280	4.366	3.420	3.244	

3) Confirmatory factor analysis

The CFA put to the test of the digital storytelling on TikTok's 35-item five-factor model, which can be seen in the EFA result. Factor loading ranged from 0.95 to 1.22 for STO, 0.83 to 1.25 for MUL, 0.63 to 1.00 for SOP, 1.00 to 1.18 for PHD, and 0.85 to 1.02 for OST employing

the CFA (Figure 2). Among all fit indices, the CFA measurement model indicated an acceptable fit with the data: $\chi 2 = 1301.454$, df = 462, p = 0.00, $\chi 2$/ df = 2.817, GFI = 0.941, AGFI = 0.920, SRMR = 0.038, RMSEA = 0.078, and CFI = 0.961. The 35-item parameter estimate had a p-value of 0.00, indicating statistical significance. It is possible to state that the measurement model is adequate for forming the digital storytelling on TikTok.

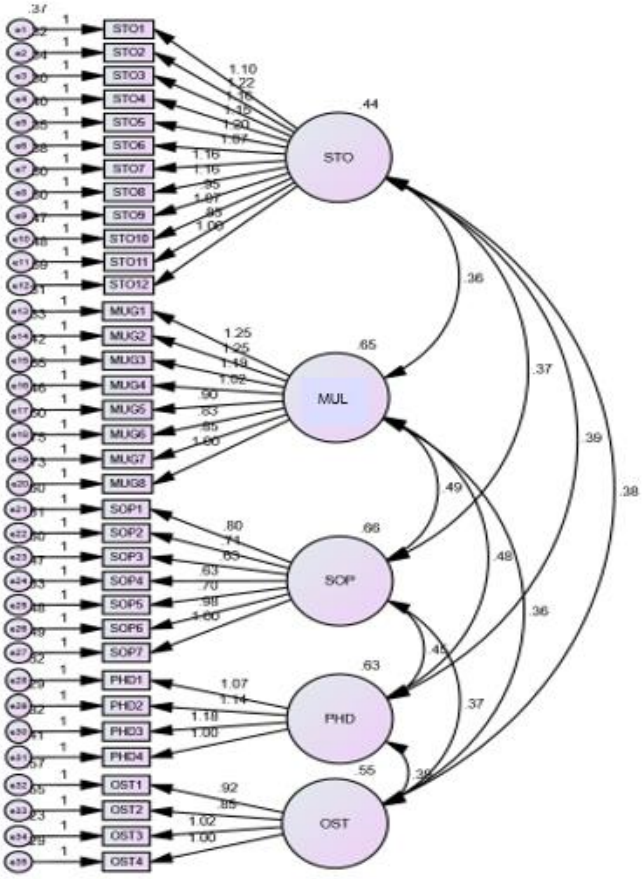

Figure 2 shows the five-factor correlated model based on CFA

4) Hypothesis Testing

Multiple regression and Pearson correlation analyses were employed to test the effects and relationship of media exposure and utilization on the findings of the study of the factors of digital storytelling on TikTok, as shown by the CFA result (Table 3 and 4). The factors of story (b = -

0.275, $p < 0.05$) and multimedia ($b = -0.122$, $p < 0.05$) on TikTok's exposure was a statistically significant at the 0.05 level (13%) ($R = 0.366$, Adjusted $R^2 = 0.130$, $F = 38.355$*, Sig. = 0.000). And all factors had a significant statistical effect on utilization at the level of 0.05 (49.5%) ($R = 0.707$, Adjusted $R^2 = 0.495$, $F = 5.680$*, Sig. = 0.018), with story ($b = 0.508$, $p < 0.05$), and photo and duration ($b = 0.143$, $p < 0.05$) that had the greatest influence on utilization. The correlation between media exposure and utilization was subsequently analyzed, and a statistically significant correlation was reported at the 0.05 level.

Table 3 The coefficient of digital storytelling factors on TikTok affecting media exposure and utilization during the COVID-19 pandemic

Variables	**Exposure (β)**	**Utilization (β)**
Story	-0.275	
Multimedia	-0.122	
Story		0.508
Multimedia		-0.142
Sound presentation		0.111
Photo and duration		0.143
Official storytellers		0.142

*P < 0.05, β = standardized coefficients

Table 4 The correlation between media exposure and utilization

Variables	**Exposure**	
	r	Sig.
Utilization	0.258**	0.000

*P < 0.05

5. Discussion and Conclusion

The current study aimed to analyze and confirmatory the factors of digital storytelling on TikTok that influence media exposure and utilization during the COVID-19 pandemic. CFA confirmed the five-factor model for the 35-item survey form. The five factors were: story, multimedia, sound presentation, photo and duration, and official storytellers. The results found were discussed:

The first factor (story) had twelve variables with factor loading ranging from 0.500 to 0.783 and eigenvalues of 17.802. It was classified as follows: information about vaccines, preventative measures, vaccination location, information that encourages positive emotions, and storytellers who are normal people, such as influencers, patients, etc. The results supported previous research findings. Saiseesod (2021) reported that 57.7% of students had access to information and were following news about the COVID-19 virus lots of times per day, employing the TikTok platform to follow news and knowledge that was beneficial to them (Tanyajaroen, 2021), and responding to their satisfaction. Similarly, Southwick et al. (2021) discovered that the most frequently presented content aspects on TikTok were health-related content, pragmatic health information, or indicating incorrect facts, mental health assessment (Ostrovsky & Chen, 2020), quarantine, and COVID-19 symptoms (Basch et al. 2021).

The second factor (multimedia) generated eight variables with factor loadings ranging from 0.578 – 0.748 and eigenvalues of 2.512. The finding revealed eight types of multimedia: images with text overlays, meme, graphics interchange format (GIFs), voice synthesizer, tone, infographic, music, and cartoon. Theoretically, multimedia is defined as the combination of still images, animations, graphics, infographics, and audio to communicate information to the audience. (Khawloueng, 2006). The current research indicates that undergraduate students tend to focus on images with text overlays, meme, graphics interchange format (GIFs) respectively, since they are very attention-grabbing and the short text makes them feel less bored. This is congruent with Surasonthi's (2016) finding that communication in crisis situations should create messages that are

attractive and easy to comprehend in both form and content, such as graphs or photos of actual events. Among teens and young adults, animation is more appealing than text (Zhu et al., 2019). Chantana, and Wijitjammaree (2022) discovered that when news or information was summarized in the form of graphics, animated and still images, the audience was able to readily recognize and remember the information or contents in a short amount of time, and it also increased attention.

The third factor (sound presentation) had seven variables with factor loadings ranging from 0.511 to 0.696 and eigenvalues of 1.747. Results indicated sound presentation characteristics: voice commentary, interjection, instrumental music, voice of the storytellers, sound effects, and a summary of the main ideas. Using sound to communicate a story can generate emotion and a sense of pleasure, as well as improve the storyteller's contents more fascinating. In which people tend to employ music which is not directly related to the content or topic, but prefer to use the appropriateness and compatibility between the content and music to enhance the spectator experience (Thanee, 2020). According to Li et al. (2021), using the storyteller's own voice is one of the variables to consider while providing information on COVID-19. It will help boost user engagement and increase audience retention (Thanee, 2020). In order for the audience to determine whether or not to continue watching, the storytellers must get to the point as rapidly as possible. In addition, the storytellers may also employ sounds or interjections to accompany the story in order to provoke emotion and effectively communicate the topic to the audience. Interjections are a type of language that allows the audience to grasp the story based on the context of the discussion, even when the storyteller's words may depart from correct linguistic form (Noro-a et al., 2018).

The fourth factor (photo and duration) had four variables with factor loadings between 0.562 and 0.721 and eigenvalues of 1.368. The outcomes included four learning variables: one - two minutes, two - three minutes, more than three minutes, and still images. The advantage of TikTok is that it serves as a platform that can convey information in less than three minutes, therefore producing a video clip consume less time. The research revealed that undergraduates focused on the duration of

content for no longer than one - two minutes. Thanee (2020) mentioned that the nature of the audience prefers to view videos that are less than 60 seconds in length, which does not require a lengthy period of time and offers them with immediately relevant content. Consistent with the findings of Chen et al. (2021), a longer video clip was associated with an increase in unfavorable emotions among the audience. This indicates that the length of the content between one and two minutes is sufficient to convey the story's main message. However, content longer than one minute can be stressful for the audience (Stolel-Waller, 2022) and less sensitive to audience demands than shorter content (Chen et al., 2021).

The fifth factor (official storytellers) contained four variables with factor loadings between 0.559 to 0.798 and eigenvalues of 1.297. Results indicated four types of storytellers: professionals in medicine or public health, researcher or scholars, government agencies including the Department of Disease Control, the Ministry of Public Health, and news agencies, including radio stations, TV stations, and newspapers. The sample group showed the most interest in contents from medical or public health specialists, it was revealed. This is consistent with the conclusions of Ostrovsky and Chen (2020), as credible organizations like the Department of Disease Control and the Department of Medical Services, as well as academics and medical professionals are important mechanisms for ensuring information about COVID-19 and being able to persuade people to follow various measures as a result of storyteller's knowledge and experience (Chantana, & Wijitjammaree, 2022). Similar to what Li et al. (2021) found government-generated health communication via TikTok showed that users preferred easily understood messages and entertaining videos than scientific jargon and overly format content.

Analyzing the influence of digital storytelling during COVID-19 on the exposure and utilization of news or information by TikTok users, it was found that the digital storytelling factor had an effect on how content was viewed and utilized, with the story and multimedia factors had an impact of 13%. In other words, because situation provoke a lot of worry among the public, undergraduate students' news exposure will drop. The audience may experience unease and worry,

if they are exposed to the news excessively. Although the situation has begun to calm down, there are several facts about COVID-19 that the audience must be made aware of. Moreover, Chen et al. (2021) discovered that repeated posts may decrease engagement, particularly the number of likes.

When the impact of digital storytelling factors on TikTok and news utilization was examined, it was discovered that all factors had an impact on 49.5% of utilization, with story, photo and duration having the greatest influence. As a result of the undergraduate students' need to advise themselves and their families about COVID-19. This is consistent with the findings of Tangkijthavorn (2015), who found that Facebook users utilize the news they get to keep updated on current events, for entertainment purposes, and to communicate or share ideas with other users. Although Li et al. (2021) discovered that the COVID-19 communication style is frequently employed in infographics, animations, documentaries, news, speeches, slideshows, and dance. All of these formats enable users to share content with one another. Similar research by Basch et al. from 2021 found that TikTok users use content on COVID-19 that shows in video clips to inform others. Therefore, it can be claimed that the factors of digital storytelling on TikTok impact on media exposure and utilization during the COVID-19 pandemic.

Additionally, it was discovered that news utilization and exposure are related. It can be claimed that when undergraduate students are quite aware of the COVID-19 epidemic, they will use that information for more positive purposes, such as self-prevention (Saiseesod, 2021). It can be concluded that the five factors of digital storytelling on TikTok that were discovered through this study are pertinent and have an impact on how undergraduate students are exposed to and utilize news about the COVID-19 epidemic.

6. Recommendation, and Limitation

The findings of the study can be applied to teaching and learning in fields like communication arts, marketing, and tourism by employing to create program content via online

platforms as a storyteller to communicate information and knowledge in extraordinary situations. This finding provides practical implications for public health agencies, experts, and researchers to use TikTok to communicate COVID-19 and health information in general. Specifically, the story, multimedia, and photo and duration factors are the majority factors in how news is exposed and utilized during a nation's crisis; therefore, public health agencies can create a variety of content based on these factors to increase user awareness and engagement.

There are some limitations in this study. First, only undergraduate students were examined. Other samples, such as those who are working, elderly people, or people who use other social media platforms like Facebook, Twitter, etc., should be studied in the upcoming study. Second, only the factors of news exposure and utilization were studied at in this study. The next study will take into account factors including social media users' intentions, attitudes, and motivations. Including selecting to study in the context of typical or unusual circumstances in various ways. Third and last, future studies should employ in-depth interviews as a qualitative research methodology to better comprehend the sample's needs in order to create content that is specialized to them.

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