

The Effect of Message Presentation on the Message Forwarding Intentions of Facebook Users

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ABSTRACT

Computers and the Internet have changed people's lifestyles, and the number of Internet users increases with the progress of Internet technology. Based on the Technology Acceptance Model for consumer behavior research and taking Coca-Cola's official fan club as an example, this study constructed independent variables, including message usefulness and message playfulness, and anticipated users' willingness to forward the messages and whether such willingness would be affected by how these messages are presented.

This study conducted a questionnaire survey among 365 Facebook users and used regression analysis and two-way ANOVA to examine the related hypotheses. The findings are as follows: (1) Message usefulness has a positive correlation with message forwarding intention on Facebook. (2) Message playfulness has a positive correlation with message forwarding intention. (3) With high message practicality and interest, text added to audio and video has a more significant impact on the willingness to reproduce the message than other presentation methods.

Keywords: Message Usefulness, Message Playfulness, Message Forwarding Intention, Message Presentation

1. INTRODUCTION

According to the "Survey of Broadband Network Use in Taiwan in 2022", 84.30% of Taiwanese people over the age of 18 who have surfed the Internet in the past three months, but 15.70% have not used the Internet, or 3.117 million people.

Social networking sites (SNSs) are comprised of messages from social media. As the Internet is made more available and smartphones are widespread, the emergence of SNSs defines the latest trend in social media; an exploratory effort into this direction and analyzes existing Facebook marketing practices and tools, their benefits, and concerns associated with this type of social media marketing [1]. Previous studies have revealed that sharing is the most advanced response that has the most costs because once a user shares a certain message, all of his/her friends would be exposed to such new posts on their homepage on social media. Hence, sharers usually evaluate whether a message deserves to be shared and are willing to endorse it before forwarding it [2].

According to the data, the number of likes on Facebook's fan pages rose by 0.3% every month in Taiwan in 2017. Among users who pressed the "like" button on fan pages, 12.2% mentioned that they were touched by some posts, meaning if there were 100 million users pressing the button, then 12 million fans on average would "like" and be moved by Coca-Cola's posts. Therefore, this study took Coca-Cola as an example. Hence, this study performed an advertising test on Facebook to examine the effect of message content and presentation method on consumers' sharing intention.

This study has three specific objectives: first, to explore whether message usefulness positively affects the message forwarding intention of users; second, to analyze whether message playfulness positively affects the message forwarding intention of users; third, to examine whether message presentation methods strengthen or weaken the message forwarding intention of users.

2. LITERATURE REVIEW

2.1 Message Forwarding Behavior of Facebook Users

Tikno [3] argued that Facebook has extensive options for ad positioning to improve its performance and efficiency in online advertisements, as Facebook users' personal messages are sharable, which allows these advertisements to be presented to other interested users.

The ability to forward messages helps social media users and their contacts to stay in touch with each other, which in turn encourages message forwarding over social media [4-5].

Hernandez-Ortega et al. [6] pointed out that when forwarding messages on the instant messaging platform of Facebook users, users may take no action on the received messages or forward them to personal and professional contacts. A combination of people, known as electronic word-of-mouth (eWOM). eWOM is defined as the act of disseminating information over the Internet, and thus stands for the dissemination of information on the Internet. However, most existing studies on information sharing in social media [7-11] do not view this phenomenon as a continuous process with a sequence of related events, where the occurrence of one event (e.g., the receipt of a

message) affects the occurrence of another event (e.g., a user decides to forward a message); instead, information sharing is viewed as a limited view of static, transient, and transient events [12].

Facebook launched fan pages as a service function in 2007. The platform helps companies, organizations, or brands share messages and connect with users. Bloggers, publishers, journals or librarians have acted as information intermediaries in past research on information dissemination [13-14]. In contrast, user sentiment is generated by user interaction with message content [15], which is an intermediate stage between message content and users' intention to forward messages on social media-based instant messaging platforms. In marketing research, brand communities are created in the form of brand fan pages where customers can interact with companies by liking or commenting on brand posts [16-17].

Related research suggests that personalization uses insights based on each customer's personal and behavioral data to deliver a superior experience. Typically, personalization requires customer engagement to co-create a personalized experience, which can be achieved through means such as customer reviews, purchase data, and social media interactions [18].

2.2 Message Usefulness

Davis [19] defined perceived usefulness as the subjective evaluation when a potential user perceives a certain system might facilitate their job performance in an organizational context. When a system has a degree of high perceived usefulness, users would have a positive attitude toward using it. Voss, Spangenberg, and Grohman [20] mentioned that consumer experiences shared on the Internet include two factors: hedonic and utilitarian. Utilitarian factors encompass “useful”, “functional”, “practical”, and “effective”. Taylor, Lewin, and Strutton [21] argued that the practical value created from functional contents largely determines the way SNSs evaluate the feelings of users after watching an advertisement. Liu and Lin [22] suggested that the more vivid, useful, and entertaining the messages are, and the more relevant the subjects are, the more frequently the messages are shared.

Kankanhalli et al. [23] stressed that users would share knowledge once they find it valuable. Mazzucchelli et al. [24] empirically studied 105 fashion firms operating worldwide, and found that firm having a physical presence benefit from especially in-store advertising and promotions to enhance their Facebook buy button conversion rate.

2.3 Message Playfulness

Muntinga et al. [25] and Raacke and Bonds-Raacke [26] specified that the content of messages refers to the messages and values expected to be conveyed, which can be further divided into different types of statements. Messages have two main characteristics: informative and entertaining, and this is why Internet users pay attention to brands. Moreover, scholars also included entertaining contents to further

research how it affects message spreading [27]. That entertaining factors could make consumers understand brands better, and consumers could be convinced to use them [28]. Certain influential scholars have also interpreted the depth and breadth of the contradiction as the absence of a fundamental definition of playfulness [29-30].

Raney et al. [31] suggested that entertaining elements carried by advertising messages can fascinate users, entice them to visit the websites and shape a positive perception of these brands. Ducoffe [32] proposed that entertainment means that viewers feel comfortable and pleasant when browsing through online advertisements and layout design, and messages presented with entertaining effects would draw more attention [33]. Coupey [34] argued that entertaining online advertisements are prone to catch more eyes. Online advertisements presented in various methods can please users; for example, sound effects endow message contents with lively elements. Community members can access entertainment value by engaging in virtual communities [35-36] that keep them hooked on the Internet [37]. Playfulness prioritizes engagement over external consequence, realness, or convention [38]. Taylor, Lewin, and Strutton [21] mentioned that entertaining advertisements are considered playful, exciting, interesting, and cool. With entertaining content, consumers would have a positive attitude toward advertisements and brands, and visit brand websites frequently [31].

2.4 Message Presentation Methods

Vaughan [39] explained that as social media thrive, advertising messages are presented in more diverse ways by combining all traditional elements, including images, animations, images, texts, and music. Wu [40] explored the best online advertising effect among three message presentation methods, including “static images and texts”, “motion videos and sounds”, and “static and motion images, texts, videos, and sounds”. The results revealed that, while no sharp differences existed in how the three presentation methods affected consumers’ attitudes toward and willingness to advertisements, the “motion video and sound” presentation method had the best memorable effect.

Vaughan [39] supported that it is the most powerful multi-media channel for spreading messages, and social media sites thrive through hyperlinks. Thompson and Hamilton [41] found that picture-cued messages can help consumers evaluate non-comparative advertisements; however, such messages are less important than text messages for evaluating comparative advertisements, as picture-cued messages spread clear and easily comparable content. Previous studies also implied that picture-cued messages draw attention easier than text messages.

2.5 Message Forwarding Intention

Sharing behaviors are based on the social exchange theory, as proposed by Homans [42]. Since the theory’s theoretical hypothesis is man-made and rational, an individual should carefully weigh the benefits and losses during resource exchanges before taking any action. Therefore, sharers also expect to obtain something in return as a reward for their interactions with others who are exposed to shared messages. Dixon

[43] indicated that message sharing means that community users are willing to spread the knowledge they have so that other users can also have the knowledge and message.

Chu and Kim [44] suggested that virtual communities allow users to comment, share, and press the Like button. Such an interactional model reveals that users have an active willingness to display their style and image, hence, the behavior of forwarding messages on SNSs can be regarded as message sharing. In addition to knowledge sharing, message sharing is another type of sharing on SNSs, which occurs when users post messages on their personal pages that they discovered on SNSs or other platforms. Such messages are considered second-hand and without the act of reconstructing knowledge, meaning it is different from the knowledge sharing received by others through recreation or message reshuffle [45].

Ridings, Gefen, and Arinze [46] argued that message sharing is a combination of two different behaviors: giving information and getting information. Sharing is a common and shared behavior connecting us and others. It is never the only way leading to connection, but a potential power to connect people and make them support each other [47]. Bakare et al. [48] examined the level of influences of infotainment, purposive value, social identity, and emotional evocativeness on the decision to forward received messages via WhatsApp. Forwarding the messages received is one of the desires of WhatsApp users.

3. RESEARCH METHOD

3.1 Research Structure

In this study, university students were invited as study subjects to complete electronic questionnaires. The experimental conditions were designed based on the five types of limited bottles rolled out by Coca-Cola in celebration of its 50th anniversary in Taiwan and were presented through text, image, video, text-image, text-video, and image-video. The subjects' responses were then collected. Each subject was asked to complete the experimental conditions presented through the six methods. To prevent the carryover effect from interfering with and confusing the memory effect, each subject was invited to take the test again a week after the test, thereby minimizing the effect of the previous experimental condition on the next one. Valid questionnaires numbered 356, achieving a valid response rate of 93.68%. This study set message usefulness and message playfulness as independent variables, presentation methods as an interference variable, including text ads, image ads, video ads, text-image ads, text-video ads, and image-video ads, and message forwarding intentions as a dependent variable.

The research framework proposed in this study is shown in Figure 1:

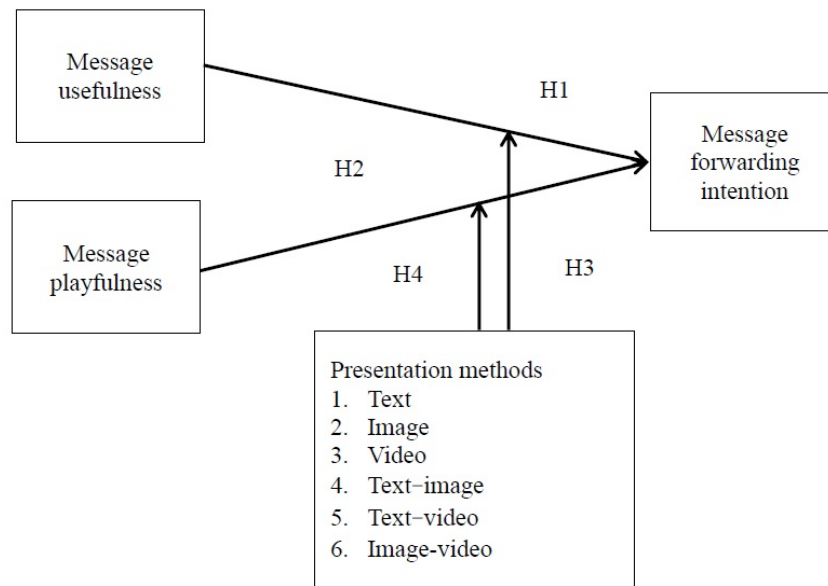


Figure 1. Research structure

3.2 Hypothesis Deduction

Luo [49] argued that entertainment and message usefulness are two primary psychological motivations affecting consumer purchase. In the virtual Internet world, consumers can make explicit comments on products or services, and be subjective or objective. These comments can help prospective purchasers or message seekers make better purchasing decisions. Cheung, Lee, and Rabjohn [50] suggested that consumers would be more willing to accept ideas or comments that they consider useful. Fang [51] claimed that perceived usefulness and perceived ease of use affect forwarding intention.

H1: Message usefulness has a significant positive effect on users' message forwarding intention

Wu [52] delved into the effect of message playfulness on message forwarding intention, and found that playful messages would satisfy users' curiosity and make them feel pleasant, thus, they would concentrate on messages and be more willing to forward such messages.

Liu and Lin [22] found that messages featuring the characteristics of vividness, usefulness, and entertainment, as well as being consistent with relevant subjects, are likely to be forwarded more frequently.

H2: Message playfulness has a significant positive effect on users' message forwarding intention

Park, Stoel, and Lennon [53] suggested that goods presented in different methods enable consumers to perceive products better, and can even make goods less uncertain. Facebook's articles are created in sheer texts, text images, and videos, where users can view textual descriptions, graphical text-image ads, and even motion videos, which

allows them to interpret the intended content of messages from various perspectives.

H3: Different presentation methods play a significant interference role in the effect of message usefulness on message forwarding intention.

H3a: With a high degree of message usefulness, text-video ad presentations play a more significant role in the effect of message playfulness on message forwarding intention, as compared with other presentation methods.

H4: Message playfulness and presentation methods have an interactional effect on message forwarding intention.

H4a: With a high degree of message playfulness, text-video ad presentations play a more significant role in the effect of message playfulness on message forwarding intention, as compared with other presentation methods.

3.3 Experiment Design, and Operational Definition and Test Item of Variables

Citing five limited-edition beverages launched by Coca-Cola on its 50th anniversary in Taiwan as a case study, experimental contexts were designed based on the event in this study, and ads were presented in six methods: pure text, images, videos, text-image, text-video, and image-video. This study divided the questionnaire into four sections and developed relevant test items. The first section pertains to “message usefulness”, the second section to “message playfulness”, the third section to “presentation methods”, and the fourth section to “message forwarding intention”.

Davis [19] indicated that perceived usefulness means that users think the use of certain technology benefits their jobs, and Sussman and Siegal [54] further proposed the information adoption model. Drawing upon Sussman and Siegal [54], and Voss, Spangenberg, and Grohman [20], this study defined message usefulness as messages that consumers find “useful”, “functional”, “practical”, and “effective”.

3.3.1 Message Playfulness

Davis, Bagozzi, and Warshaw [55] proposed that perceived pleasure has a significant effect on willingness to use. Moon and Kim [56] and Heijden [57] also probed into perceived pleasure and perceived playfulness, and confirmed the importance of message playfulness for message forwarding intention.

This study classified the presentation methods presented to consumers into text ads, image ads, video ads, text-image ads, text-video ads, and image-video ads.

(1) Text ads

Text ads spread messages through texts to viewers, such as product introductions, promotional services, and promotional activities. Text ads can appear alone or be accompanied by text-image ads or video ads. When added with keywords, text messages allow users to locate the meanings expected to be conveyed more quickly or messages that users want to access.

(2) Image ads

Image ads are images or scenes made up of various lines, shapes, and colors, instead of static pictures alone. Furthermore, motion pictures can also catch consumers' eyes.

(3) Video ads

Video ads presented with visual and auditory elements can spread messages precisely to the eyes and ears of users and attract their attention. In addition, simultaneous sensory stimulations would impress users more to ensure messages are registered by users.

(4) Text-image ads

Regarding text-image ads, Facebook has imposed a numerical limit of 20% for ads, which stipulates that the amount of text must account for no less than 20% of the overall layout of promotional images. There is a system operating on Facebook to review the proportion of text and images in text-image ads on a one-by-one basis, and if the result reveals a relatively high proportion, the number of people viewing such ads will fall.

(5) Text-video ads

Feelings spread through videos are greater than the content of messages: while audiences might forget messages seen in videos, they might not forget the feelings brought by videos. As audiences might have a closer bond with contexts due to textual descriptions, they are more likely to be impressed by ads.

(6) Image-video ads

As people are exposed to massive amounts of messages every day, videos that spread messages to audiences like an unfolding story will enable them to absorb a large amount of information during a short period of time, while images can attract people to click and watch videos.

Ridings, Gefen, and Arinze [45] argued that information sharing is comprised of two behaviors, giving information and getting information. Belk [57] suggested sharing is an alternative form of distribution to commodity exchange and gift giving. Compared to these alternative modes, sharing can foster community, save resources, and create certain synergies., sharing can be regarded as a potential power that connects and supports us and others [46]. Ke [58] indicated that message gathering and sharing often take place alternatively and affect each other: Drawing upon the technology acceptance model [12] and the theory of reasoned action [59], this study defined message forwarding intention as the willingness that consumers have to forward a message on sight. Inspired by Bock et al. [35] and Ha and Ahn [60].

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4. DATA ANALYSIS

4.1 Preliminary Data Analysis

This study collected 356 valid questionnaires, with males accounting for 39.6% and females accounting for 60.4%. Most participants used FB for 1 to 3 hours, accounting for 42.1%, and 89.9% of participants responded that they had forwarded articles on FB. This study adopted confirmatory factor analysis to examine the degree of convergence and discriminatory validity of message usefulness, message playfulness, and message forwarding intentions. The standardized factor loading of all items fell between 0.614 and 0.923. Their CR values were 0.9201, 0.8788, and 0.9449. Their AVE values were 0.6591, 0.5494, and 0.8108. The correlation coefficient of the three dimensions exceeded 75%.

Table 1. Frequency distribution

Sample characteristics	Category	Frequency	Percentage (%)
Sex	Male	141	39.6
	Female	215	60.4
Using FB every day	Under 1 hour	60	16.9
	1-3 hours	150	42.1
	3-5 hours	118	33.1
	More than 5 hours	27	7.6
	60		
Reposted the article on FB	Y	320	89.9
	N	36	10.1

Table 2. Correlation coefficient matrix

Construct	Message Usefulness	Message Playfulness	Message Forwarding Intention
Message Usefulness	0.812*		
Message Playfulness	0.568	0.741 *	
Message Forwarding Intention	0.551	0.730	0.9

4.2 Hypothesis Validation

The multiple regression result of the effect of message usefulness and message playfulness on message forwarding intention reached 900.209, $p < 0.05$, which proves the regression correlation between message usefulness and message playfulness with message forwarding intention. The D-W value was 1.358, which indicates no self-correlation (the result is true when the value is less than 2). The p value of message usefulness was less than 0.01, which indicates a high significant effect, and the case was the same for message playfulness. Therefore, H1 and H2 in this study were supported.

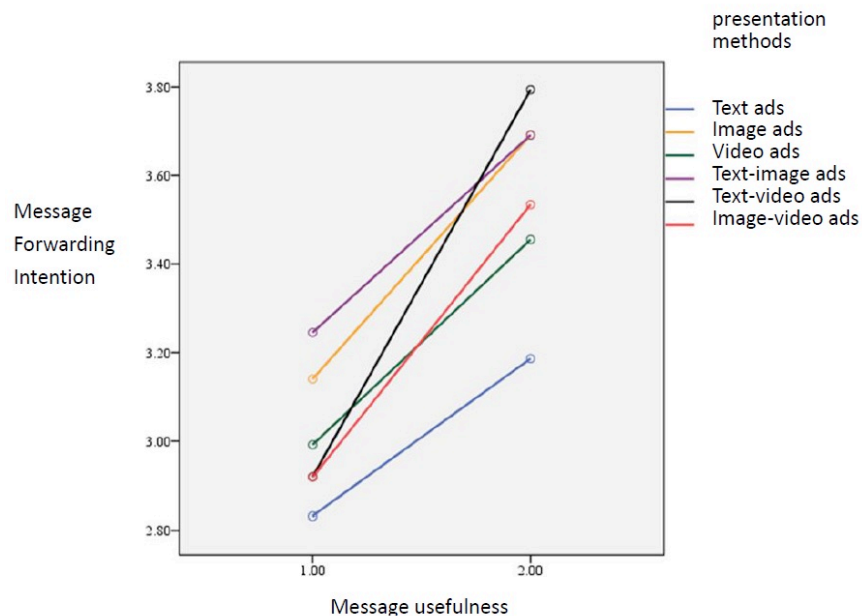
Two-way ANOVA analysis was conducted to examine H3 and H3a. After averaging the scores of message usefulness, this study divided the results into high message usefulness and low message usefulness based on the median score. The results are presented in Table 3. Message usefulness and presentation methods have an interactional correlation with each other, and their interactions are presented in Figure 2. Based on these results, this study found that H3 “message usefulness and presentation methods have an interactional effect on message forwarding intention” was supported.

Table 3. Validation results of two-way ANOVA of H3

(I) Context	(J) Context	Average deviation (I-J)	Standard error	Significance
Text ads	Image ads	-0.18673*	0.06718	0.006
	Video ads	-0.07199	0.06711	0.284
	Text-image ads	-0.20315*	0.06834	0.003
	Text-video ads	-0.47795*	0.06453	0.000
	Image-video ads	-0.20601*	0.06894	0.003
Image ads	Text ads	0.18673*	0.06718	0.006
	Video ads	0.11474	0.06386	0.073
	Text-image ads	-0.01642	0.06516	0.801
	Text-video ads	-0.29121*	0.06115	0.000
	Image-video ads	-0.01928	0.06579	0.770
Video ads	Text ads	0.07199	0.06711	0.284
	Image ads	-0.11474	0.06386	0.073
	Text-image ads	-0.13116*	0.06508	0.044
	Text-video ads	-0.40595*	0.06107	0.000
	Image-video ads	-0.13402*	0.06571	0.042
Text-image ads	Text ads	0.20315*	0.06834	0.003
	Image ads	0.01642	0.06516	0.801
	Video ads	0.13116*	0.06508	0.044
	Text-video ads	-0.27479*	0.06242	0.000
	Image-video ads	-0.00286	0.06698	0.966

Table 3. Validation results of two-way ANOVA of H3

(I) Context	(J) Context	Average deviation (I-J)	Standard error	Significance
Text-video ads	Text ads	0.47795*	0.06453	0.000
	Image ads	0.29121*	0.06115	0.000
	Video ads	0.40595*	0.06107	0.000
	Text-image ads	0.27479*	0.06242	0.000
	Image-video ads	0.27193*	0.06308	0.000
Image-video o ads	Text ads	0.20601*	0.06894	0.003
	Image ads	0.01928	0.06579	0.770
	Video ads	0.13402*	0.06571	0.042
	Text-image ads	0.00286	0.06698	0.966
	Text-video ads	-0.27193*	0.06308	0.000

**Figure 2.** Interactional effect of message usefulness and presentation methods on message forwarding intention**Table 4.** Message usefulness and message forwarding intention One-way ANOVA

	SS	DF	MS	F	P
SSB	17.763	5	3.553	8.507	.000
SSW	427.217	1023	.418		
SST	444.979	1028			

Regarding message usefulness, Table 4 and Figure 2 reveal that the text-video presentation of ads plays a more significant role in the effect of message usefulness on message forwarding intention with high message usefulness than other presentation methods. Moreover, the $p \leq 0.000$, which is significant. In contrast, text-image

presentation of ads played a more significant role in the effect of message usefulness on message forwarding intention than other presentation methods with low message usefulness.

Two-way ANOVA analysis was conducted to examine H4 and H4a. After averaging the scores of message playfulness, this study divided the results into high message playfulness and low message playfulness based on the median score. The results are presented in Table 5. Message playfulness and presentation methods play an interactional role, and their interactions are presented in Figure 3. Based on these results, H3 “message playfulness and presentation have an interactional effect on message forwarding intention” was supported.

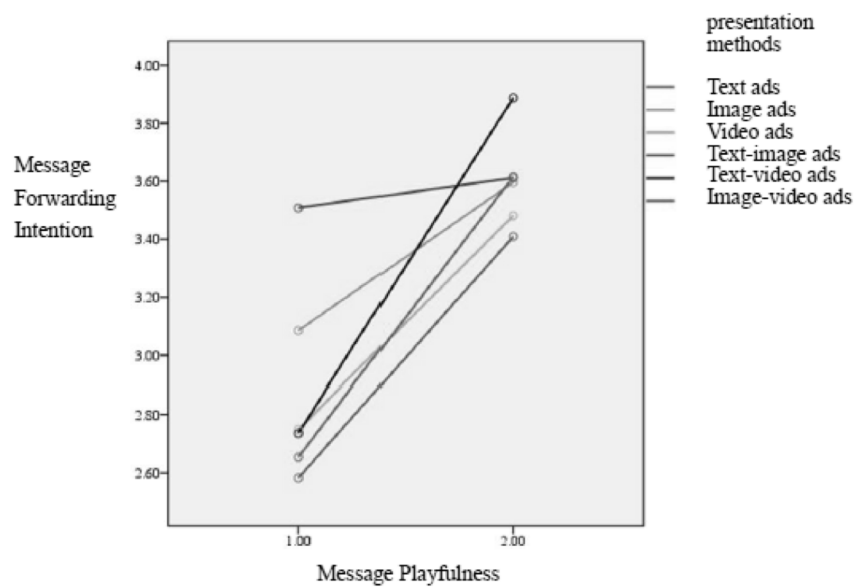
Table 5. Validation results of two-way ANOVA of H4

(I) Context	(J) Context	Average deviation (I-J)	Standard error	Significance
Text ads	Image ads	-0.18673*	0.06718	0.006
	Video ads	-0.07199	0.06711	0.284
	Text-image ads	-0.20315*	0.06834	0.003
	Text-video ads	-0.47795*	0.06453	0.000
	Image-video ads	-0.20601*	0.06894	0.003
Image ads	Text ads	0.18673*	0.06718	0.006
	Video ads	0.11474	0.06386	0.073
	Text-image ads	-0.01642	0.06516	0.801
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	Text-video ads	-0.40595*	0.06107	0.000
	Image-video ads	-0.13402*	0.06571	0.042
Text-image ads	Text ads	0.20315*	0.06834	0.003
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Text-video ads	Text ads	0.47795*	0.06453	0.000
	Image ads	0.29121*	0.06115	0.000
	Video ads	0.40595*	0.06107	0.000
	Text-image ads	0.27479*	0.06242	0.000
	Image-video ads	0.27193*	0.06308	0.000

Table 5. Validation results of two-way ANOVA of H4

(I) Context	(J) Context	Average deviation (I-J)	Standard error	Significance
Image-video ads	Text ads	0.20601*	0.06894	0.003
	Image ads	0.01928	0.06579	0.770
	Video ads	0.13402*	0.06571	0.042
	Text-image ads	0.00286	0.06698	0.966
	Text-video ads	-0.27193*	0.06308	0.000

Source: Compiled by this study

**Figure 3.** Interactional effect of message playfulness and presentation methods on message forwarding intention**Table 6.** Message Playfulness and message forwarding intention One-way ANOVA

	SS	DF	MS	F	P
SSB	29.828	5	5.966	13.966	.000
SSW	520.692	1219	0.427		
SST	550.521	1224			

Regarding message playfulness, that the text-video presentation of ads plays a more significant role in the effect of message playfulness on message forwarding intention with high message playfulness than other presentation methods. The $p \leq 0.000$, which is significant. In contrast, text-image presentations play a more significant role in the effect of message playfulness on message forwarding intention than other presentation methods with low message playfulness.

5. CONCLUSION AND SUGGESTIONS

5.1 Research Findings

This study developed two independent variables, message usefulness, and message playfulness, and attempted to predict users' message forwarding intentions by taking Coca-Cola's official fan page on Facebook as an example. The following conclusions were made.

The results reveal that message usefulness has a significant and positive effect on message forwarding intention. In other words, users are more willing to forward useful and practical messages. This finding is consistent with Kankanhalli et al. [23] who argued that users are more likely to forward useful and valuable messages.

The results show that message playfulness has a significant and positive effect on message forwarding intention, meaning that users are more likely to forward vivid, useful, and entertaining messages. This finding is consistent with Liu and Lin [22], Wu [52] who suggested that users are more willing to forward messages that carry valuable and interesting contents, satisfy their curiosity, make them feel pleasant, and keep them focused on the content. In this study, message playfulness has a greater effect than message usefulness.

The results indicate that text-video ads are the most primary context affecting message usefulness, followed by text-image ads, image ads, image-video ads, video ads, and text ads. Hence, this study argues that text-video ads are more likely to be forwarded by users, as compared with ads presented by other methods.

The results indicate that text-video ads are the most primary context affecting message playfulness, followed by text-image ads, image-video ads, image ads, video ads, and text ads. Hence, this study argues that text-video ads are more likely to be forwarded by users, as compared with ads presented by other methods.

5.2 Academic Implications

Davis et al. [19] used perceived usefulness and perceived ease of use as the leading indicators to measure attitude toward use in the technology acceptance model. Moon and Kim [56] included playfulness as a variable in their research model but failed to completely measure attitude toward information use. Hence, this study drew on the model developed by Moon and Kim [56] and TAM II (revised technology acceptance model), as proposed by Davis [19], to explore what presentation method has the most significant and positive effect on message forwarding intention when users browse through Facebook. This study focused on what presentation method has the most positive effect on message forwarding intention for Facebook users. Activities that take place in virtual communities allow users to comment, share, and press the Like button, and this interactional approach shows users' active willingness to display their individual styles and images [44].

5.3 Managerial Implications

This study suggests that operators can introduce diverse content marketing on their Facebook fan pages. Regarding message presentation, they should include useful messages and present them in an interesting manner; for example, they can add situational stories or match issues with films to make users feel less bored and more interested, as users are more willing to share and forward useful and playful messages to others. While messages that only focus on playfulness, entertainment, or attention can improve forwarding willingness, their effect is limited, as playful messages have limited usefulness. In the long-term, as trends fall out of favor, a decreasing number of users would click, read, and forward such messages. In response, useful messages should be added, which enables users to browse through and share these messages again. As such, users might be more willing to forward them, thus, spreading messages wider. Since communities are an important e-commerce platform, appropriate message presentation methods can make fan pages more active and capital investment count.

5.4 Research Limitations and Future Research

This study was conducted with university students as subjects. As social networking websites become increasingly popular, the number of middle-aged and senior users is increasing. Therefore, there might be limitations concerning the samples of other age groups in the findings of this study. If future studies can include more age groups as subjects, the entire survey results of these studies will be improved. Additionally, future studies can consider applying this model to other social networking websites (such as Instagram and Twitter) or advertising on relevant shopping websites to test the suitability of this model.

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