

Social Media Message Strategy: An Exploratory Study into Managing Facebook Pages

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Abstract

Companies that successfully leverage social media marketing can attract customers, increase purchase intention, and encourage brand loyalty. This study adopted the dietary supplement company Morning Shop, one of the most popular Facebook Pages in Taiwan, as a case to explore the message strategy types that are effective in stimulating customers' interactions (i.e., likes, comments, and shares) and the vocabulary in posts that conveys social support facilitating customers' comments. The post type and impact factor of 393 posts on Morning Shop's Facebook Page were identified, vocabulary in posts was analyzed, and correlations between impact factor and various kinds of social support were calculated. Our results revealed that emotional appeal is the most effective message strategy and emotionally evocative vocabulary has the greatest influence on fans. Findings from this study serve as a reference to help increase the effectiveness of company social media fan pages.

Keywords: Social media, facebook fan page, message strategy, message content analysis

1. Introduction

Social media (e.g., Facebook and Twitter) have become ubiquitous in consumers' daily routine, which makes social media marketing a critical issue for B2C companies shapes and sizes. According to eMarketer (2017), there are approximately 2.46 billion active users who use social media at least once a month. Facebook, in particular, hosted 2.07 billion active users, which amounts to roughly one-eighth of the global population, in the third quarter of 2017 (Statista 2017). Based on the massive user base of social media, an estimated 60 million companies have opted to create Facebook Pages to serve as an extension of their service operations (Adweek 2016). Compared to traditional clientele, customers who are also fans of a company in social media are more willing to visit the company's physical stores, pass on positive reviews by electronic word-of-mouth (eWOM), and purchase branded products (Dholakia and Durham 2010). It is due to that a fan page can act as an open channel between a company and its customers and potential customers, significantly enhancing brand recognition as well as concurrently increasing customer interactions (Verma et al. 2012).

Given that, researchers have gravitated toward exploring the realm of social media marketing (Wilson et al. 2012; Stoycheff et al. 2017). However, the research strands have mainly either emphasized on examining the effectiveness of message strategies using brand-related words (Kwok and Yu 2013; Swani et al. 2013) or developing methodological metrics for measuring customer activities (Kumar et al. 2013). Scant research has simultaneously taken both research

perspectives into account to delve into the interactive dynamics between companies' marketing communication and the corresponding customers' reactions on Facebook Pages. In the current research, therefore, we conducted a case study using Facebook Pages managed by Taiwanese dietary supplement companies in an attempt to filling in the research gap. Specifically, the objectives of this research are to assess companies' leverage of posts on Facebook Pages by (1) conceptualizing a typology of message strategies and establishing an analytical approach to gauge its impact on customer interactions in terms of likes, comments, and shares, and (2) exploring the underlying social support conveyed by the rhetorical usage of vocabulary in posts and its impact on facilitating customers' comments. The rationale behind these research objectives are described in greater detail below.

Firstly, incremental user base of social media engenders frequent interactions, including liking, commenting, and sharing, and ultimately enhances user loyalty and adhesion, which brings value to such platforms (Schau et al. 2009) As such, more and more companies utilizes message strategies, defined as the overall attempts to promote a company's product, service, or idea via posts, to direct customer traffic to their social media page and engage customers with posts on it (Lin 2007). For instance, a message strategy can present ideal user image by describing users as "health conscious lovers of the dietary supplement company." However, previous research on social media marketing has mostly sought to identify post formats, such as images, videos, and links, that affect brand popularity (De Vries et al. 2012; Sabate et al. 2014). A

dearth of research has probed into categorizing message strategies in posts and systematically analyzed the effectiveness of such message strategies on strengthening customers' interactions with companies. To address this research gap, the current case study builds on the literature to systematically classify various types of message strategies on Facebook Pages and methodically evaluate their impact on generating likes, comments, and shares.

Secondly, in addition to message strategy, message "content" in social media is also considered as a major factor that affects customers' decision-making (Swani et al. 2017), given that appropriate word usage can enhance customers' perceptions of products or brands and also increase their desire to make purchases (McQuarrie and Mick 1996; Lavack et al. 2008). Here, message content refers to companies' rhetorical usage of vocabulary in posts to deliver meanings to customers (McQuarrie and Mick 1996). Especially, companies' utilization of wording in posts, by making customers perceive the intention to meet their needs, may serve as the means through which social support is conveyed to customers. For example, companies can use vocabulary such as "happiness," "mood," and "sensation" to elicit customers' emotions. If an individual feels respected, supported, and understood within a social media group (e.g., brand community), their emotional responses would positively influence their shopping behavior (Liang et al. 2011). Yet, scarce attention has been given to analyze the vocabulary constituting the message content of posts and the perceived social support. For this reason, this case study investigates how vocabulary in post affects customers' feelings about social support provided by companies on Facebook Pages through the lens of social support theory (Caplan 1974).

Last but not least, as Kang, Tang, and Fiore (2014) stated, the implementation of message strategies on fan pages could vary from one product category to another, and thus, companies' message strategies should be tailored based on the unique characteristics for each product category. The present study explores message strategies that are suited for Facebook Pages of dietary supplement products because the dietary supplement category has long enjoyed widespread popularity, and the average compound annual growth rate (CAGR) for its market is estimated to reach 6% (with the potential to grow into a US \$100 billion industry) between 2015 and 2019. In particular, natural dietary supplements currently have the largest market share (more than 39%) within the dietary supplement market (Technavio 2015). Considering the immensely lucrative marketing potential, it is critical to understand how dietary supplement companies manage their Facebook Pages, at least in the context of Taiwanese market.

2. Literature Review

2.1 Facebook Pages

Kemp (2017) reported that a fifth of the world's population engaged in online shopping in 2016, and that online shopping has since been further popularized by smart phones. In light of this, companies' fan pages in social media typically contain post messages which target customers and aim to stimulate their desire to make a purchase; therefore, posts on social media fan pages can be classified as a type of online advertisement. Facebook launched its Facebook Page function in 2007, which are used by company, group, and individual users for self-branding purposes. Studies have confirmed that Facebook Pages are immensely beneficial to companies. The primary benefits are as follows:

- (1) Increase customers' desire to buy: The fan page manager can achieve a level of information transmission similar to that of face-to-face communication by interacting with fans through the fan page. Interactions with customers over Facebook Pages (known as para-social interactions) have been shown to increase purchase intentions (Colliander & Dahlén, 2011);
- (2) Attract new fans: Verma et al. (2012) found that fan pages are not only effective at communicating with fans, but can also help a company gain new fans as well. For example, when a fan reacts or responds to a post, said a fan becomes a source of information transmission for that post. Indeed, Facebook automatically shares the post with that fan's Facebook friends, thereby raising the page's rate of exposure and potentially attracting new fans as well. Facebook statistics from 2013 showed that approximately 4.75 billion posts were shared every day (Statista 2017);
- (3) Instantaneously transmit information: Customers typically do not browse a company's official website every day, but many of them use Facebook every day. For example, on average, American users spend 40 minutes a day on Facebook, while Taiwanese users spend 100 minutes a day on the site (Statista 2017). Such statistics highlight the ability of Facebook Pages to communicate information and promote products quickly and conveniently.
- (4) Serve as a gateway to a company's official website: A fan page can serve as a gateway to a company's official website where customers are able to purchase goods or services. The more effectively that a company's Facebook page is managed, the better it becomes at improving company performance (Williams 2011). However, although Facebook Pages may provide companies with a competitive edge, they are nonetheless limited by various challenges. These include (1) User habits: typically, users receive information passively (i.e.,

they do not actively search for information); this is one reason that managing message strategies to retain customer loyalty is critically important. (2) Facebook's business model: in order to meet user demands and its own bottom line, Facebook continuously modifies and/or revamps its services (e.g., presentation of posts, modes of user interaction, presentation of search results). Managers of corporate Facebook Pages therefore need to constantly adjust their competitive strategy to maintain an edge. As a result, being knowledgeable about all different kinds of message strategies is an invaluable skill for Facebook Page managers.

2.2 eWOM on Facebook Pages

In marketing, word-of-mouth is defined as the behavior of sharing usage experiences and ratings with other consumers after using a product or service (Arndt 1967). If the customer chooses the online media such as social media and blogs as the sharing channel, then it is called electronic word-of-mouth (Rosario et al. 2016). As a means of social media marketing, electronic word-of-mouth (eWOM) can be specifically defined as "any positive or negative statement made by potential, actual, or former customers about a product or company, which is made available to a multitude of people and institutions via internet" (Hennig-Thurau et al., 2004, p. 39). Accordingly, valence and volume are crucial characteristics of eWOM (Floyd et al. 2014). The valence refers to the positive or negative opinions conveyed by eWOM which can influence customers' perception and attitude towards companies (Liu 2006). The volume refers to the quantity of opinions circulating among customers (Cui et al. 2012). Higher eWOM volume increases consumer knowledge of the product (Liu 2006) and thus exerts greater impact on the purchase decisions of consumers (Duan et al. 2008).

As an early conceptualization of eWOM, moreover, the network coproduction model suggests that companies make marketing communication efforts via online media such as blogs to encourage customers' articulation of viewpoints regarding branded products (Kozinets et al. 2010). In the process, customers play the role as active coproducers of meanings based on their exchange of information relevant to the companies. Related to the present research, customers' interactions with companies through Facebook Pages may be conceived as a form of eWOM in the same vein. Companies on the one hand host Facebook Pages and use posts to direct customer traffic as well as address the needs and expectations of customers (Jansen et al. 2009). On the other hand, customers could engage with companies by giving feedbacks that demonstrate their positive or negative opinions using the liking, commenting, and sharing functions embedded on Facebook Pages. As Swani et al (2013) have suggested, liking is analogous to

eWOM because customers instantly manifest their favorableness to other Facebook users when they click on the Like button. Similarly, the functions of commenting and sharing would be flexible for customers to explicitly express their thoughts or feelings about a specific post by the companies.

2.3 Message Strategies in Facebook Page Posts

In the current study, "posts" refer to promotional information that have been posted on a company's Facebook Page. "Message strategy" refers to a company's use of various types of posts to transmit information about products, services, and ideas. The purpose of a message strategy is typically to encourage fans to make purchases. In the advertising industry, advertising agencies use different strategies which leverage the design, innovation, and appeal of advertisements to attract customer attention and influence the purchase decision-making process (Byun 2016; Kim, Duffy, & Thorson, 2021). Like advertising agencies, fan page managers act as information transmitters and thus need to design message strategies that cater to the preferences of customers. Successful message strategies raise a post's level of impact.

Previous researchers have developed message strategies that are able to attract customers, such as "experimental appeal" which is a type of message strategy that employs sensory and mental stimulation to create an online atmosphere that satisfies customers and increases their purchase intention. This strategy allows customers to experience intangible services visually, emotionally, and mentally and add value beyond physical products (Schmitt 1999). Conversely, other types of message strategies attempt to connect with customers' emotions by creating an online atmosphere which stimulates particular emotional responses (e.g., surprise). The ultimate aim of these strategies is to lead customers to make purchases (Xie et al. 2004). Other related message strategies employ interactivity, functional appeal, unique selling propositions, comparisons, resonance, user image, social causes, exclusivity, animation, spokespeople/spokescharacters, company brand name, product brand name, direct calls to purchase, and information searches. However, the aforementioned message strategies were not designed to support e-commerce. Moreover, posts on Facebook Pages differ from traditional advertising (e.g., television commercials, banner ads) in many respects. For example, Facebook Pages have a feedback mechanism. Customers can comment on or "Like" a post, or even share the post with their friends. Therefore, it is worth researching how existing message strategies can be modified to benefit Facebook Pages. Table 1 shows a compilation of the aforementioned message strategies as well as associated message strategies that are based on traditional strategies but have been adapted to better suit Facebook Pages. These adapted strategies are also the research focus of our current study.

In summary, few message strategies developed by previous researchers were designed for use on Facebook Pages. Although adaptations have allowed them to be employed by social media, whether they are effective on such platforms is still

unclear. Furthermore, to-date, no systematic comparison that investigates the different effects of various marketing strategies on social media fan pages has been performed.

Table 1: A Typology of Social Media Message Strategies

Message Strategy	Associated Strategies Adapted for Facebook Pages	References
Interactivity	Embed activities within posts that (1) encourage fans and potential customers to give feedback about the company's products or services; (2) provide fans with a positive interaction experience and ultimately convince them to become a loyal patron (e.g., by offering giveaways to customers who write a review after using a product or service)	(Thorson and Rodgers 2006)
Functional Appeal	Use posts to highlight the functions and features of a product or service	(Johar and Sirgy 1991; Gilliland and Johnston 1997; Brown et al. 2014)
Emotional Appeal	Use posts to appeal emotionally to fans (e.g., elicit surprise or shock) in order to encourage them to support an idea or concept (e.g., vegetarian diets are beneficial to one's health) and ultimately persuade them to purchase a product or service	(Johar and Sirgy 1991; Gilliland and Johnston 1997; Swani et al. 2014)
Experiential Appeal	Use posts to describe the experiences of customers (e.g., taste, smell, aesthetics) who already bought and used a product or service	(Laskey et al. 1989)
Unique Selling Proposition	Use posts to describe the uniqueness of a product or service	(Laskey et al. 1989)
Comparative	Use posts to compare and contrast products or services with those of competitors	(Laskey et al. 1989)
User Image	Use posts to describe the ideal user of a product or service (e.g., young, health conscious, nature lover, etc.) in order to satisfy the internal demands of fans	(Laskey et al. 1989; Johar and Sirgy 1991)
Social Cause	Use posts to describe how a company serves the public good (e.g., promotions where the company matches consumer purchases up to a certain amount and donates it to charity events)	(Ashley and Tuten 2015)
Exclusivity	Design fan-exclusive events where only a portion of fans qualify to participate; set a cap on the time and the number of participants	(Ashley and Tuten 2015)
Animation	Employ animation to convey information in posts	(Callcott and Lee 1994)
Spokescharacter/Spokesperson	Employ celebrity spokespersons or animated spokespersons to talk about a product or service	(Callcott and Lee 1994; Heiser et al. 2008)
Company Brand Name	Mention the company brand name in posts	(Kuhn et al. 2008; Brown et al. 2012)
Product Brand Name	Mention the product brand name in posts	(Brown et al. 2012)
Direct Calls to Purchase	Use clear-cut language in posts which directly instructs customers to make purchases	(Brown et al. 2012; Berger 2014; Swani et al. 2014)
Information Search	Provide related links about products, services, or the company in posts	(Mudambi et al. 1997; Brown et al. 2012)

2.4 Message Content in Facebook Page Posts

Given that most customers spend very little time looking at an advertisement, advertisers must present an entire sales pitch in a very short period of time. Therefore, minimizing cost and maximizing meaningful impact within that short period is critically important (Colliander and Dahlén 2011). Research has shown that the proper use of vocabulary and phrasing in posts can enhance a customer's expectations and leave a lasting impression in their mind (McQuarrie and Mick 1996; Lavack et al. 2008). Strong vocabulary and

phrasing can help customers better understand post content and can also affect customer purchase intention (Lee et al. 2010). Furthermore, effective vocabulary use should increase the willingness of users to view advertisements (e.g., fan page posts). However, to-date, few studies have analyzed word usage and vocabulary in fan page posts. Therefore, we incorporated word usage and vocabulary analysis into the current study. Our results can serve as reference for companies.

2.5 Social Support Theory on Facebook Page Management

Due to the rapid expansion of social media, studies involving social support theory and social media websites (e.g., Ross et al. 2009; Wright 2012; Budenz et al., 2020; Wang, Yao, Li, & Wang, 2020) have already been performed. However, the majority of these studies have focused on how social media websites affect and support the behavior, psychology, and health of internet users from sociological, psychological, and medical care-related perspectives. How social support theory can be applied to management of Facebook Pages has rarely been explored. Social support theory (Caplan 1974) states that an individual can receive three kinds of support through interactions with another individual or group, as follows. Emotional aspect—feeling respected and cared about as a result of receiving concern, and/or sympathy. Cognitive aspect—receiving information, encouragement, or warnings that help one solve a problem or issue. Material aspect—getting support through the receipt of tangible items, money, and/or services.

Applying to the current study, “social support” is defined as the “provision of psychological encouragement, relevant information, and tangible assistance to individuals browsing the fan page.” Currently, the social media service model is centered around text. If the aim of this model is to convey the feeling of social support to fans, the vocabulary and wording used in posts are fundamentally important. Specifically, companies may set-up Facebook Pages to establish a closer relationship with customers and potential customers and ultimately increase their loyalty to the company. It is thus believed that Facebook Pages can provide fans with different types of support (e.g., emotional, cognitive, material) and at the same time help a company

reach its marketing goals. Namely, companies often create Facebook Pages to provide social support to their fans via posts. These posts also encourage fans to remain active on the page and to eventually purchase goods or services. When an individual seeks advice through a post on social media (e.g., Facebook posts that ask for product reviews), they can expect to receive cognitive and material support. Unlike traditional social support, which comes from face-to-face interactions, prior research (Shaw and Gant 2002) has found that online media allow users to receive social support in the absence of in-person communication. Along this logic, the new types of text-centered interactions provided by social media are faster, more private, and more convenient, which may explain why an increasing number of people are willing to greater amount of time in such medium platforms.

3. Methodology

3.1 Research Design

This study was exploratory in nature. We adopted a case study approach with the aim of identifying the message strategies and vocabulary with the most pronounced effect in driving the popularity of Facebook posts. Case studies are a powerful method for evaluating real world practices and information within the context of social media (e.g., Ashley and Tuten 2015; He et al. 2013). The data collection methods and analysis schemes employed in this study are illustrated in Figure 1. This process was divided into three phases: collection and pre-processing of data; message strategy analysis; and vocabulary usage analysis. In the following sections, we detail each of these phases as well as the operationalization of variables.

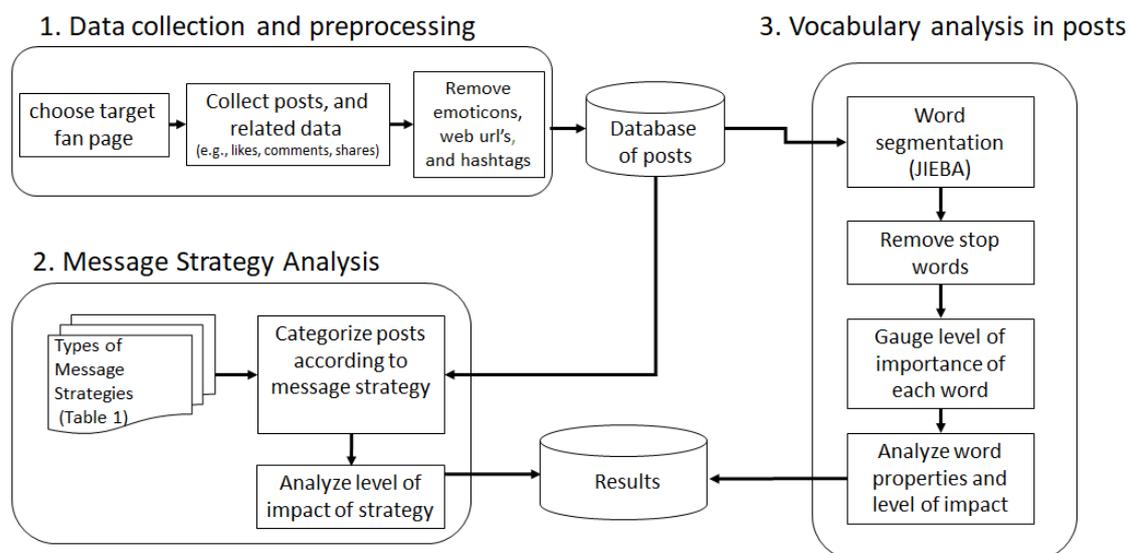


Figure 1: Research Process

3.2 Data Collection and Pre-processing

According to the 80/20 rule, 80% of social media users will only look at fan pages which rank in the top 20 percent (80th percentile) in terms of popularity (Koch 2011). The current study was based in Taiwan, and we therefore sought to collect and analyze data from the most popular Facebook Pages devoted to Taiwanese dietary supplement companies and organizations. Specifically, in March 2017, we used “dietary supplements,” “health supplements,” and “health foods” as search terms to determine which of the relevant Facebook fan pages were most popular. In so doing, we found that the three most popular dietary supplement-related fan pages (determined according to number of “Likes”) were as follows: (1) “Health World”, with 1.24 million “Likes” (www.facebook.com/health.tw); (2) “Morning Shop”, with 370,000 “Likes” (www.facebook.com/iHealth123); and (3) “Daily Health”, with 250,000 “Likes” (www.facebook.com/healthylives.tw). The Facebook Pages that were ranked below third place had considerably fewer “Likes” (averaging less than 20,000) than did the top three fan pages. Initial analysis revealed that the Facebook Pages of Health World and Daily Health were built by the same media company, resulting in posts that are highly repetitive and focused almost entirely on dietary and health food-related information (e.g., diets to lower blood pressure). Overall, these pages are meant only to serve as an intermediary stop leading users to the official company website. Note also that they appear not to be based on any particular messaging strategy. By contrast, Morning Shop uses a variety of rich posting strategies to promote fan interactions (e.g., live broadcasts, emotional appeal, experiential appeal), which is in line with the research context and purpose of the current study. Based on analysis of relevance and fairness, Morning Shop was selected as the primary research case for subsequent data collection and analysis.

The fan page of “Morning Shop” mainly featured different kinds of oatmeal products as well as condiments that could be eaten with oatmeal (e.g., cocoa powder, soymilk). On average, Morning Shop made three to six posts on its own Facebook Page each day, with the majority of these posts aimed at promoting oatmeal. As of June 18, 2017, the fan page had been rated 4.2 out of 5 stars and had a total of 341,097 “Likes”. In this study, we utilized Facebook’s Application Programming Interface (API) to track the post count of Morning Shop’s fan page as well as the number of “Likes” received by each post, the number of times each post was shared, and the number of comments made in responses to each post. The data collection period started on April 1st, 2017 and ended on September 30th, 2017. Within this period, 7,762 fans engaged in discussion on the fan page, and the total

post count was 393. After data collection was complete, non-textual content such as emoticons, web addresses, and hashtags were removed from the collected text, and the processed data was stored in a database.

3.3 Analysis of Message Strategies in Posts

In this study, we describe the popularity of posts in terms of the number of likes, comments, and shares associated with a given Facebook page post. In this context, the term post refers to promotional information posted on a corporate Facebook page. The term message strategy refers to a company’s use of various types of posts for the transmission of information related to products, services, and ideas. Fifteen types of message strategy are listed in Table 1. In this phase of the analysis, two items were analyzed: post type and impact factor.

- (1) Post type: Two research team members were trained and completed a preliminary round of coding 80 posts separate from the 393 posts. The training sample of 80 posts met the guidelines for reliability in terms of content analysis (i.e., 10-20% of the sample) (Neuendorf 2016). The coders underwent training to ensure proficiency in the use of the coding scheme (Table 1). Intercoder reliability scores were calculated for the 15 variables using Cohen’s Kappa coefficient (κ). The scores ranged from 0.73 to 0.92 (Appendix 1), indicating acceptable intercoder reliability ($\kappa \geq 0.7$) (Brennan and Prediger 1981). The two coders then coded a total of the 393 posts for final analysis. All inter-coder disagreements pertaining to post classification were resolved by subsequent consensus or through adjudication by a third member of the research team. Posts that used more than one message strategy were placed in multiple categories.
- (2) Calculation of message strategy impact factor: Previous research has shown that the number of likes, comments, and shares received for a given post can be used to measure the impact of that post on the fan page. Among these three measures, sharing typically leads to greater post dissemination and should therefore be assigned the strongest weight values. Far more time is required to submit a comment than simply to press the like button; therefore, comments should be assigned the second strongest weight value, with likes assigned the smallest weight. Based on statistics pertaining to Facebook usage, the weighting of likes, comments, and shares should be ranked at a ratio of 1:7:13. In other words, comments are worth 7 times as much as likes and shares are worth 13 times as much as likes (Cleary 2017). In this study, we used the following formula to measure a post’s level of impact (based on the aforementioned

weighted values and the analytical methodology of De Vries et al., 2012): Impact Factor equals (number of Likes \times 1 + number of comments \times 7 + number of shares \times 13) divided by number of posts. For example, if ten posts that utilized message strategy “A” received 30 “Likes,” 20 comments, and 10 shares, the impact factor of message strategy “A” would be calculated as follows: $(30 \times 1 + 20 \times 7 + 10 \times 13) / 10$, and strategy “A” would receive an impact factor of 30. Due to a dearth of research on the impact of social media posts, we adopted only research methods that have been proven effective. Nonetheless, these methods are still prone to limitations (see research limitations).

3.4 Analysis of Message Content in Posts

Textual analysis was conducted to elucidate the functions and effects of social support on social media. Social support can be divided into three aspects. The operational definitions of each aspect are as follows: (1) Emotional aspect: vocabulary that could elicit an emotional response (e.g., happiness) when a fan reads a post; (2) cognitive aspect: vocabulary that refers to intangible materials, such as information, knowledge, or advice (e.g., nutritional advice); (3) material aspect: vocabulary related to tangible materials or services (e.g., a specific type of food, store hours, etc.).

In this phase of data analysis, message content in terms of the vocabulary and words used in the 393 posts were analyzed. “Word” refers to a Chinese morpheme - the most basic meaningful morphological unit of a language. JIEBA, a Chinese word segmentation tool, was used to segment the text in the posts. JIEBA has been used in many previous studies and has been demonstrated to have good usability (e.g., Yan et al. 2017). For example, using JIEBA, the Chinese phrase 麥片很好吃 (oatmeal is tasty) would be segmented into its component morphemes as follows: 麥片 (oatmeal), 很 (is), 好吃 (tasty). Following segmentation, all Chinese words underwent a filtering process in order to their impact on fans. A more detailed description of vocabulary analysis is provided below:

- (1) The content of all 393 posts was segmented into 18,676 Chinese words using JIEBA.
- (2) Meaningless units or “stop words” (e.g., the, is, at, on) were removed.
- (3) The level of importance associated with a given Chinese word was determined according to Term Frequency (TF), Term Frequency-Inverse Document Frequency (TF-IDF), and TextRank (Mihalcea & Tarau, 2004), which are widely employed algorithms (see Table 2). After impact factors had been calculated for each word using all three algorithms, the 60 words with the highest weighted values calculated by each algorithm were retained for additional analysis (i.e., for a total of 180 Chinese words). After

repeated and overlapping words were removed using a cross-checking method, we were left with a final list of 72 distinct Chinese words;

- (4) Word coding was performed. According to social support theory (Caplan 1974), social media users can receive emotional, cognitive, and material support when they interact with other users or groups on social media. Posts on fan pages are a medium through which social support is transmitted. When appropriate vocabulary and wording are employed, customers can achieve a better understanding of a product’s features and be more likely to actively participate on the fan page (e.g., “Liking” a post, leaving a comment, or sharing a post). In May 2017, nine users were randomly selected from the “Morning Shop” Facebook Page and asked to categorize the 72 Chinese words into three categories: emotional (words that are able to elicit an emotional response from the user), cognitive (vocabulary that refers to intangible materials such as information, knowledge, or advice), and material (words that are related to services or tangible materials). During the process of classification, the researchers explained to the participants only the objective and procedure of the survey. The participants were then instructed to classify the vocabulary items according to the sensations they elicited. This was done to ensure that the classification outcomes reflected the actual feelings of the participants; i.e., without bias from the researchers. The results obtained using this method are generalizable to potential consumers with similar characteristics. Moreover, data classification is an important basis for making systematic and objective inferences about decision-making, as it provides clear overviews and summaries. We adopted the tenets of social support theory as the basis for classification, wherein the participants were asked to evaluate the impact of vocabulary items in Facebook posts and classify them accordingly. This method allows the administrator to utilize strong vocabulary in posts related to a given product without concern that the affect of the word would change significantly when applied to a different product. For instance, the term happiness (conveying a sense of contentment, joy, and love) could be applied to the promotion of a variety of products, all of which are expected to have a similar impact on the reader. Intercoder reliability scores were calculated for the 3 variables (emotional, cognitive, material) using Fleiss’s kappa coefficient (κ), a category-specific measure of intercoder agreement between two or more coders. The scores ranged from 0.6 to 0.82 (Appendix 2), indicating acceptable intercoder reliability ($\kappa \geq 0.6$) (Landis & Koch, 1977).

(5) The level of impact associated with each of the 72 words was determined. An individual's understanding of a word is based on their subjective experiences and can thus vary from person to person. For example, the word "free" could have a large impact on participant A but elicit no reaction from participant B. In order to gauge the level of impact of these 72 Chinese words on Morning Shop's fans, a survey was administered to random respondents who were prompted to rate each word on a five-point weighted Likert scale: Extremely strong (5 points), Quite strong (4 points), Moderately strong (3 points), Slightly strong (2 points), or Not at all strong (1 point). The survey received a total of 213 submissions; of these, 117 were viable. Ninety-six of the submissions were deemed outdated and excluded from analysis. In cases where at least three months had elapsed since the most recent visit to the Morning Shop fan page, the researchers deemed that the readers would be unfamiliar with posts collected for the present study. Questionnaire surveys have proven to be reliable in the assessment of customer attitudes toward products listed online (e.g., Nambisan and Watt 2011). Our objective in this study was to investigate the feelings and impressions of community

members toward the vocabulary used in Facebook posts. Thus, self-reported surveys were deemed a practical approach to obtaining the desired data.

(6) To understand whether certain key words increase feedback from fans (i.e., whether increased use of key words results in a greater number of likes). The impact factor (derived from fan feedback; e.g., number of likes, comments, shares) for each post was determined, and the correlation between impact factor and each of the three types of social support was calculated. This procedure is explained using an example below:

- a. Consider a post that contains two vocabulary items related to emotional support, including "special price" and "convenience." According to the survey results, "special price" and "convenience" received impact factor scores of 2 and 1, respectively. Thus, the impact factor for emotional support conferred to the fan is $2 + 1 = 3$. This same method was also used to calculate the impact factor associated with cognitive and material support.
- b. The Pearson Correlation test was used to calculate the correlation between the three kinds of social support and impact factor.

Table 2: Method Used to Calculate Weighted Values of Vocabulary Words

Method	Explanation
Term Frequency (TF)	<p>Calculation to determine the frequency that a word appears in a post. The basic premise which underlies this calculation is that words which appear more frequently elicit more impactful impressions in fans (e.g. "tasty")</p> $TF_{i,j} = \frac{n_{i,j}}{\sum_k n_{k,j}} \quad (\text{Formula 1})$ <p>$n_{i,j}$: the # of times a word appears in a post; $n_{k,j}$: total # of times a word appears in all posts</p>
Term Frequency-Inverse Document Frequency (TF-IDF)	<p>TF-IDF is an information retrieval algorithm that is used to evaluate the level of importance a word has in a set of documents. In brief, under this algorithm, if a word appears frequently in a post (high TF) and is rarely seen in other posts (high IDF), this word is representative and is given a high weighted value. For example, Chinese function words (e.g. 的) may have a high TF value in one post but a low IDF value in other posts. For these words, the TF-IDF value will be relatively low, which suggests low importance. In other words, TF-IDF determines which words are repetitive function words that should be discarded and which words are truly important and warrant keeping.</p> $IDF_i = \log \frac{ D }{ \{j: t_j \in d_j\} } \quad (\text{Formula 2})$ <p>D: total number of post; $\{j: t_j \in d_j\}$: the number of posts that contain the word t_i (i.e., $n_{k,j} \neq 0$ post count)</p> $TFIDF_{i,j} = TF_{i,j} \times IDF_i \quad (\text{Formula 3})$
Text Rank (Mihalcea & Tarau, 2004)	<p>TextRank is a topologically based algorithm. The basic idea is derived from the algorithm used by Google PageRank. Its main function is to build a topology diagram which describes the relationships between words. Formula 4 (below) is used to continuously conduct recursive calculations which determine the weighted value of each word. Lastly, words are ranked by their weighted value in order to determine which are the most important.</p> $WS(V_i) = (1 - d) + d \times \sum_{V_j \in \text{In}(V_i)} w_{ji} \quad (\text{Formula 4})$ <p>$WS(V_i)$: I weighted value; V: point set; E: edge; w_{ji}: weighted value of any two points on the figure (V_i and V_j)</p> <p>$\text{In}(V_i)$: the point set point to point I; $\text{Out}(V_j)$: point set indicated by point I; d: default Gini coefficient is 0.85</p>

4. Results

4.1 Descriptive Statistics

Morning Shop’s Facebook Page was tracked over the course of six months (2017/4/1 to 9/30), during which time 393 posts were recorded. These posts attracted 7,762 active participants in discussions and garnered 270,807 reactions, 18,116 comments, and 7,742 shares. On average, each post received 689 reactions, 46 comments, and 18 shares.

4.2 Common Message Strategies and Fan Feedback

Analysis of the 393 posts were conducted based on the definitions listed in Table 1. Table 3 presents the results of this analysis, which includes the number of times each message strategy was used, amount of fan feedback, the level of impact that each message strategy had. The top three message strategies used by Morning Shop were emotional appeal (N =244, 62%), experiential appeal (N = 191, 48.6%), and functional appeal (N = 185, 47%). In other words, more than half of all posts used emotionally appealing language (e.g., “in order to get a good figure”, “special offer today”), and nearly half of all posts included descriptions of user experiences (e.g., “tried eating oatmeal”) or highlighted functionality (e.g., high in fiber, good taste and texture) to impact fans. The least used message strategies were social cause (N = 2, > 1%) and user image (N = 3, > 1%). In brief, the manager of Morning Shop’s fan page rarely brought up social causes in which the organization was involved and rarely talked about the image of those who eat oatmeal (e.g., beautiful, healthy). With regards to fan feedback, the three message strategies that garnered the most fan feedback were emotional appeal, direct calls to purchase, and experiential appeal, which received 56,098, 46,103, and 39,681

responses (including likes, reactions, comments, and shares), respectively. In addition, a total of 244 posts used emotional appeal, with each post averaging 214 Likes, 10 comments, and 6 shares.

4.3 Impact of Message Strategy

The calculation of how a message strategy impacted a post was based on the amount of feedback that post received from fans. The level of impact that a certain message strategy has increases with the amount of feedback received. This determination considers the following:

- (1) Likes, comments, and shares represent different levels of interest. Sharing a post represents the highest level of interest; commenting on a post represents the second highest level of interest; and Liking a post represents the third highest level of interest. Shared posts are also more likely to be read by a greater number of people.
- (2) Posts that employ a message strategy more frequently have a higher probability of receiving feedback from fans. In order to understand the real impact that a message strategy has on fan feedback, the following formula was used: Impact Factor (I) = (Number of Likes × 1 + Number of comments × 7 + Number of Shares × 13) / Number of posts.

As seen in Table 3, the three message strategies with the highest impact factors on Morning Shop’s fan page were social cause (I = 857), exclusivity (I = 671), and animation (I = 611). Two posts used the social cause message strategy, and these posts gained a combined total of 398 Likes, 162 comments, and 14 shares. Therefore, the equation used to calculate this strategy’s impact factor was $(398 \times 1 + 162 \times 7 + 14 \times 13) / 2 = 857$. Conversely, the message strategy with the lowest impact factor was user image (I = 107).

Table 3: Results of Message Strategy Analysis

Message Strategy	Amount of Fan Feedback (Average Values)								# of posts	Impact Factor Value	
	Likes		Comments		Shares		Total				
Emotional appeal	52147	(214)	2559	(10)	1392	(6)	56098	(230)	1 st	244	361
Direct calls to purchase	42879	(271)	2382	(15)	842	(5)	46103	(292)		158	446
Experiential appeal	36878	(193)	1895	(10)	908	(5)	39681	(208)	2 nd	191	324
Functional appeal	35166	(190)	1180	(6)	618	(3)	36964	(200)	3 rd	185	278
Unique selling proposition	23001	(204)	1748	(15)	775	(7)	25524	(226)		113	401
Product brand name	23936	(193)	902	(7)	510	(4)	25348	(204)		124	297
Spokesperson/ spokesperson-character	15343	(307)	370	(7)	250	(5)	15963	(319)		50	424
Interactivity	10863	(151)	3497	(49)	589	(8)	14949	(208)		72	597
Company brand name	13721	(259)	576	(11)	398	(8)	14695	(277)		53	433
Exclusivity	7780	(205)	1456	(38)	578	(15)	9814	(258)	2 nd	38	671
Information search	4375	(129)	1144	(34)	339	(10)	5858	(172)		34	494
Animation	2162	(216)	208	(21)	192	(19)	2562	(256)	3 rd	10	611
Comparative	1898	(237)	32	(4)	35	(4)	1965	(246)		8	322
Social cause	398	(199)	162	(81)	14	(7)	574	(287)	1 st	2	857
User image	260	(87)	5	(2)	2	(1)	267	(89)		3	107
Total	270807		18116		7442		296365				

4.4 Interactivity Strategy

Facebook launched its Facebook Live streaming service in August 2015. During the observation period of this study, Morning Shop used the live streaming service to interact with fans by conducting lucky draw events. For this research, usage of Facebook Live was categorized as part of the interactivity message strategy. The discussion below further sub-categorizes interactivity as involving either live broadcast or non-live broadcast. As seen in Table 4, Morning Shop used interactivity-type

strategies 72 times; 9 (13%) of these instances were live broadcasts, and 63 (87%) were non-live broadcasts. In other words, the number of non-live broadcasts was seven times higher than the number of live broadcasts. This may be due to the fact that the costs associated with live broadcasts tend to be higher than the costs associated with non-live broadcasts. Nonetheless, impact factor that was calculated for live broadcasts (I = 1,185) was significantly higher than that of non-live broadcasts (I = 513). These results demonstrate the clear advantage of using live broadcasts to impact fans.

Table 4: Results of Interactivity Message Strategy Analysis

Message Strategy	Amount of Fan Feedback (Average Values)				# of posts	Impact Factor Value
	Likes	Comments	Shares	Total		
Non-live broadcast	9,760(155)	2,152(34)	578(9)	12,490(98)	63	513
Live broadcast	1,103(123)	1,345(149)	11(2)	2,459(273)	9	1,185

Note

Impact Factor (I)=(Number of Likes×1+Number of comments×7+Number of Shares×13)/Number of posts

Non-live broadcast (I)=(9760×1+2152×7+578×13)/63=(9760+15064+7514)/63=513

Live broadcast (I)=(1103×1+1345×7+11×13)/9=(1103+9415+143)/9=1,184

4.5 Analysis of Vocabulary in Posts

During the observation period of this study, a total of 393 posts (which included a total of 18,676 words) were recorded on Morning Shop’s fan page. After data preprocessing (section 3.4), a total of 72 distinct, important vocabulary items were selected, and these were categorized into the three social support categories (i.e., emotional, cognitive, and material) by nine fans of Morning Shop’s page. However, four vocabulary items which could not be distinctly categorized (i.e., “essay”, “the time when”, “fan page editor or manager”, “whole family”), and two similar items (i.e., crunchy, oatmeal) were deleted, leaving 66 vocabulary items. Then, in May 2017, a survey was administered to gauge the impact factor of each of these 66 items. A total of 213 responses were recorded, and 117 of these were viable.

4.6 Background Information of Respondents

Background information for survey respondents is presented in Table 5. Of the 117 respondents considered, 58% were male (N = 68), and 42% were female (N = 49). The majority of respondents were between the ages of 21 and 25 (64.1%, N = 75), and 14.5% of respondents (N = 17) were between the ages of 26 and 30. Around 58% of survey respondents had a Master’s degree or higher (N = 66), and 38.5% of survey respondents had an undergraduate degree (N = 45). The most common occupation was “student” (75.2%, N = 88), and the second most common occupation was “service industry” (9.4%, N = 11). Around 98.4% (N = 114) of respondents had been using the internet for more than five years. The majority of respondents indicated that they visited Morning Shop’s Facebook Page < 1 per week (76.1%, N = 89), and 13.7% (N = 16) indicated that they visited the page once or twice a week. Fans who visited Morning Shop’s

Facebook page more frequently than once or twice a week were less common.

Table 5: Background Information for Survey Respondents

Item	Category	Sample	
		Count	Ratio (%)
Sex	Male	68	58.1
	Female	49	41.9
Age (years)	<20	13	11.1
	21-25	75	64.1
	26-30	17	14.5
	31-35	3	2.6
	36-40	2	1.7
Level of education	>40	7	6.0
	Middle school or lower	2	1.7
	High school	4	3.4
	University	45	38.5
Occupation	Graduate school and above	66	56.4
	Student	88	75.2
	IT	7	6.0
	Government	2	1.7
	Service industry	11	9.4
Internet use	Other	9	7.7
	<1 years	1	0.9
	1-3 years	0	0.0
	3-5 years	2	1.7
	>5 years	114	97.4
Frequency of fan page visits	<1 per week	89	76.1
	1-2 per week	16	13.7
	3-4 per week	5	4.3
	5-6 per week	2	1.7
	Every day	5	4.3

4.7 Results of Vocabulary Categorization

The results of vocabulary categorization are presented in Table 6. Of the 66 significant vocabulary items, 21 (31%) were categorized as emotional support, 18 were categorized as cognitive support (27%), and 27 were categorized as material support

(42%). Emotional support items are defined as vocabulary items that can affect mood or elicit an emotional response from fans. Such vocabulary includes terms like “special price”, “convenient”, “healthy”, “happiness”, etc. Cognitive support items are defined as vocabulary items that convey information, knowledge, or advice. This vocabulary includes terms such as “delicious”, “taste”, “nutrition”, “sweetness”, etc. Finally, material support items are defined as vocabulary items that describe material goods or services. This vocabulary includes terms such as “milk”, “fruits”, “yogurt”, “honey”, etc.

4.8 Vocabulary Items and Associated Level of Impact

The level of impact was also gauged for each vocabulary item on a scale of 1 to 5, where 1 = least strong and 5 = most strong. As seen in Table 6, emotional support-related vocabulary items which showed the strongest level of impact include “special price”, with a rating of 4.3, and “convenience”, with a rating of 4. The vocabulary item that showed the lowest level of impact was “oatmealers”, with a rating of 2.5. In terms of vocabulary related to cognitive and material support, findings were as follows: “delicious” (4.1) and “milk” (3.8) ranked highest, while “Vilson” (2.5) and “oatmeal porridge” (2.7) ranked lowest. In summary, all 66 vocabulary items can be divided into three groups in terms of level of impact: 10% (N = 7) of items were

categorized into the most impactful group (i.e., with a rating between 5 and 3.8). These items included terms such as “special price”, “convenience”, “taste”, “healthy”, “milk”, and “nutrition”. Conversely, 90% (N = 59) of vocabulary items were categorized into the moderately impactful group (i.e., with a rating between 3.7 and 2.4). None of the items (N = 0) were categorized into the low impactful group (i.e., a rating below 2.3).

4.9 Correlation Between Vocabulary and Fan Feedback

Results of the correlation analysis between vocabulary usage and fan feedback were as follows. The correlation between vocabulary items related to emotional support and number of comments (N = 393 posts) was significant and positive ($r = 0.138, p < 0.05$). In other words, posts that contained a greater number of vocabulary items related to emotional support tended to receive more comments from fans. Specific results for individual message strategies involving emotional support were as follows: comparative (N = 8 posts, $r = 0.873, p < 0.05$), company brand name (N = 53 posts, $r = 0.278, p < 0.05$), animation (N = 10 posts, $r = 0.673, p < 0.05$), interactivity (N = 72 posts, $r = 0.277, p < 0.05$), and information search (N = 34 posts, $r = 0.421, p < 0.05$). However, no significant correlation was found between fan feedback and cognitive or material-related vocabulary items ($p > 0.05$).

Table 6: Morning Shop’s Usage of Vocabulary in Facebook Page Posts

Type	Definition	Vocabulary (Level of impact on fans, 1-5, where 5=strongest impact)							
Emotional (N=21)	Affects fans’ moods and elicits an emotional response	Special price	(4.3)	Happiness	(3.4)	Box opening	(3.2)	Problem	(2.7)
		Convenience	(4.0)	Most loved	(3.3)	Familia	(3.1)	Completely	(2.6)
		Health	(3.9)	New product	(3.3)	Hours	(3.1)	Oatmealers	(2.5)
		Easy	(3.6)	Mood	(3.2)	England	(2.9)		
		Abundant	(3.5)	Main point	(3.2)	Girls	(2.8)		
Cognitive (N=18)	Conveys information, knowledge, advice, and other non-tangible things	Sensation	(3.4)	Friends	(3.2)	Everyone	(2.7)		
		Delicious	(4.1)	Texture	(3.6)	Time	(3.5)	Double-layered video	(3.0)
		Taste	(3.9)	Crunchy	(3.6)	Keeping cold	(3.3)	Vilson	(2.8)
		Nutritious	(3.8)	Full	(3.6)	Sourness	(3.3)		
		Sweetness	(3.7)	Organic	(3.5)	Smell	(3.3)		
Material (N=27)	Vocabulary items related to material goods or services	Fibrous	(3.6)	Crunchy	(3.5)	Flavor	(3.2)		
		Milk	(3.8)	Banana	(3.4)	Small pack (sample pack)	(3.2)	Toast	(2.8)
		Fruits	(3.7)	Raspberry	(3.4)	Nuts	(3.1)	Restock	(2.8)
		Yogurt	(3.6)	Oats	(3.2)	Picnic	(3.1)	Oatmeal porridge	(2.7)
		Honey	(3.6)	Midnight snack	(3.2)	Soymilk	(3.1)		
		Chocolate	(3.6)	Afternoon tea	(3.2)	Wheat	(3.0)		
		Apple	(3.5)	Strawberry	(3.2)	Fruit jam	(3.0)		
Breakfast	(3.4)	Oatmeal	(3.2)	Product	(2.9)				
Blueberry	(3.4)	Food	(3.2)	Almond	(2.9)				

Notes on vocabulary items

1. “Familia” and “Vilson” are oatmeal brands
2. “Keeping cold” refers to portable thermos bowls that are able to retain cold temperatures
3. “Oatmealers” is how Morning Shop addresses its fans
4. “Hours” refers to time; Morning Shop often uses a countdown as a sales promotion tactic
5. “Crunchy” refers to the texture of oatmeal when eaten

5. Discussion and Conclusion

This study examined 393 posts from Morning Shop, one of Taiwan's most popular Facebook Pages for dietary supplements and health food, and aimed to answer the following research questions: (1) What type of message strategies are most effective at increasing interactions with fans and enhancing social media marketing success? (2) What type of vocabulary confers social support to fans and encourage fans to continue visiting the fan page? The following section presents a discussion of research results.

5.1 Message Strategy

First of all, the most effective message strategy used by Morning Shop (i.e., the message strategy which garnered the most feedback from fans) was "emotional appeal". Essentialism, a concept from the field of psychology, may provide an explanation for this apparent effectiveness of this strategy. Essentialism asserts that every entity (e.g., every person or thing) has its own set of innate attributes (e.g., watermelons are round, lemons are sour). Moreover, human behavior (e.g., customer behavior) and feelings towards a person or thing (e.g., joy) do not solely originate from what one can perceive with the physical senses. Rather, behavior and feelings are also derived from attributes and features which inherently represent some person or thing (Cartwright 1968). In other words, Morning Shop fans may choose to eat oatmeal for reasons other than health and taste. For example, oatmeal may be filling an internal need of some kind (e.g., getting in shape, being healthy and beautiful). Message strategies which employ emotional appeal are designed to affect the mood and emotions of fans in order to convince them that consuming some product will improve their lives, which can be an effective way of generating fan feedback. Therefore, in designing posts that generate emotional appeal, Facebook Page managers should leverage the attributes and features of products or services that they are selling. Such posts should better resonate with fans and ultimately enhance the effectiveness of the company's social media marketing efforts.

Furthermore, in terms of social causes, Morning Shop has promoted the use of ecofriendly eating utensils and bags and has also encouraged their fans to help protect the earth by purchasing these ecofriendly products. During the observation period of this study, while Morning Shop only employed the social cause message strategy twice, the impact factor for this strategy greatly exceeded the impact factor associated with all other types of message strategies, which shows that customers pay special attention to social causes. The results correspond with previous research (Bigné-Alcañiz et al. 2010) that customers who feel that they are contributing to a company's participation in a

social cause or charitable activity tend to have an increased desire to buy that company's products. As such, managers who promote health supplements and food on Facebook Pages should consider making posts about social causes or movements that relate to their products and/or services, as doing so can increase the effectiveness of social media marketing efforts.

The results of the study revealed that "exclusivity" was the second most impactful message strategy used by Morning Shop. In terms of economics, exclusivity refers to making a product exclusive to a certain group, thereby preventing individuals outside the group from accessing or obtaining it (Ashley and Tuten 2015). Morning Shop uses language such as "exclusive to certain types of fans" to give their customers a sense of superiority. A customer's willingness to buy something depends on their perceived value of the product (Barden 2013). A sense of superiority increases fans' perceived value of the company's product, which should raise the likelihood of a fan "liking" a post, sharing a post, and ultimately buying the product featured in the post. In this study, the exclusivity strategy had a significantly high impact factor. This finding suggests that health-related fan pages can leverage the exclusivity strategy to increase the feeling of superiority among different sub-groups of fans for certain products and thereby strengthen their perceived value of the company and its products.

5.2 Vocabulary Use in Posts

This study determined that Morning Shop's Facebook activity provided social support to fans who read posts or watched live broadcasts. Language and wording comprise a critical medium through which social support is conferred. In this study, vocabulary items for each type of social support that were found to be significantly impactful to fans included the following. (1) Emotional aspect: "special price", "convenient", and "healthy"; (2) Cognitive aspect: "deliciousness", "taste", and "nutrition"; and (3) Material aspect: "milk", "fruits", and "yogurt". Considering the three types of social support conferred by Facebook Page posts, words categorized as providing emotional support showed a positive correlation with the number of comments received from fans; whereas no such correlation was found for cognitive or material support. In other words, Morning Shop's posts which employed message content related to emotional support (e.g., comparative, company brand name) tended to have the most significant impact on fans. In this study, thus, some vocabulary had a significant effect on fans. Considering the words examined in this study, vocabulary items such as "special price", "convenient", and "nutritious" showed a higher impact on fans than did other vocabulary items. This finding suggests that managers of social media fan pages should identify which

vocabulary terms are most effective and leverage them to increase fan feedback.

On the other hand, social support theory is applicable to social media marketing. For example, results of this study showed that when a greater amount of emotional support-related vocabulary was used in a post, fans tended to comment on that post at higher rates. When coupled with an appropriate message content, the effectiveness of vocabulary related to emotional support is augmented. For example, the comparative strategy can be employed in posts to highlight the differences between the company's product and a competitor's product (e.g., brick-and-mortar breakfast shops tend to have a lot of cooking smoke and longer wait times, whereas oatmeal is convenient, quick, tasty, and sold at a special price). Given this finding, marketers should make an effort to understand the types of social support that can be conferred to fans via their fan page, and then incorporate associated message strategies and vocabulary items in order to optimize the effectiveness of their social media marketing.

5.3 Research Contributions and Implications

Our findings have important implications for theory and practice. First, this study adopted the literature on Word-of-Mouth (WOM) and the social support theory as its theoretical bases. Literature regarding WOM provides a systematic framework by which to understand how WOM influences consumer behavior. The categorization of media types has been extensively studied in previous research (Kwok and Yu 2013), so this study adds new insight to the WOM literature by identifying the typology of message strategies with a pronounced influence on eWOM (i.e., likes/comments/shares) within the context of Facebook pages. Empirical evidence of this nature could be of considerable value to corporations seeking to use social media to promote business interests. For instance, our findings could assist administrators in selecting the message strategy that most effectively addresses the particular characteristics of a user group in order to promote positive WOM. This study shows that emotional appeal can have a significant impact on the interactions on Facebook fans page of companies dealing in dietary supplements. We also used social support theory to analyze the message content in posts, which allowed us to identify three sets of vocabulary of particular significance. To the best of our knowledge, this is the first research to extend the application of social support theory to social media marketing. The results of this research could assist in the development of marketing activities that are more refined and effective, such as using specific vocabulary items to influence the mood of customers, thereby increasing profits for the corporation and improving customer relations.

The practical implications of this work for scholars and practitioners include the following: (1)

Methodology: Research methods are an important part of scientific research. Employing a variety of methods can assist scholars in analyzing a given topic from different angles. In the past, scholars relied almost exclusively on experimental methods to examine the impact of social media posts on users (e.g., Boerman et al. 2017; Sparks et al. 2016; Van Noort and Willemsen 2012). This study differs from previous research in its use of a case study method for the collection of data pertaining to a well-known Facebook page. The resulting data was then subjected to systematic analysis to identify message strategies and characterize the content of posts. This method provides real-world cases to illustrate the actual business situation on Facebook pages. We believe that this approach overcomes many of the limitations of experimental methods, such as a lack of external validity. This research experience could also serve as a reference for future scholars, who could modify or combine it with other research methods to obtain analysis results of greater precision and completeness. (2) **Theory and hypothesis:** This case study focuses on a well-known Facebook page managed by Taiwanese dietary supplement companies. Our findings help researchers in the field of social media to gain further insight into the operation of Facebook pages. For example, we found that some message strategies (e.g., emotional appeal, interactivity strategy) can greatly promote positive eWOM (i.e., likes, comment, shares). Future scholars could incorporate these variables into the worth of mouth (WOM) theory, and further explore the possibility of generalizing WOM theory to the social media of other industries. (3) **Practical management:** Previous studies on social media posts focused on the methods used to deal with negative comments (e.g., Sparks et al. 2016; Van Noort and Willemsen 2012). This study focused on message strategies and the words and phrases used in posts. Marketing personnel could use our results to guide the development of marketing strategies based on social media, such as the use of emotional appeal strategies in lucky draws. They could also incorporate words and phrases appropriate to their marketing themes (e.g., convenience) in order to promote participation among netizens (i.e., likes, comments, shares), thereby enhancing corporate influence and increasing sales.

5.4 Limitations and Directions for Future Research

This study analyzed posts on Morning Shop's Facebook Page over the course of six months. However, Facebook continually modifies its services in order to increase its user base, which may have caused Morning Shop to adopt different message strategies. Future studies could collect posts from a variety of time points in order to better understand the adaptability and applicability of the different message strategies.

Secondly, despite our efforts to ensure rigorous scientific standards in the methodology of this research, there remained a number of limitations due to time, costs, and factors beyond our control. For example, this study did not include non-textual information (e.g., videos, photographs or audio clips) in calculations pertaining to the impact of Facebook posts on fans, despite the influence that these can have in certain situations. Future researchers could include non-textual information to obtain a more comprehensive assessment of these issues. Cultural contexts may be another factor confounding our research findings, due to the fact that this study was based only on data collected in Taiwan, which is a highly collectivist culture. Comparative studies could be conducted to examine the effectiveness of social media marketing within different cultural contexts (e.g., individualist vs. collectivist societies).

Thirdly, in studying posts on Facebook Pages, this study compiled a list of fifteen different types of message strategies that had been proposed by previous researchers. Although extensive efforts were made to incorporate all types of message strategies, there is a chance that some were left out. Therefore, future studies could identify whether any message strategies were missed and, if so, analyze the effects of these missed strategies on social media fan pages. Such research would complement and supplement findings of the current study.

Lastly, this study is inevitably limited in generalizability in its findings to the current research sample and chosen methods. Future research are encouraged to include a large sample size, expand the scope of investigation (e.g., multiple companies in multiple industry sectors), and employ other data analysis methods (e.g., sentiment analyses) as the current study only provide preliminary insights on social media message strategies due to its exploratory nature.

6. Appendix

Appendix 1: Intercoder Reliability Scores for Classifying Posts in Subsample (n=80).

Variable	Cohen's Kappa Coefficient (κ)
Emotional appeal	0.83
Direct calls to purchase	0.89
Experiential appeal	0.86
Functional appeal	0.87
Unique selling proposition	0.76
Product brand name	0.89
Spokesperson/spokescharacter	0.92
Interactivity	0.83
Company brand name	0.91
Exclusivity	0.81
Information search	0.82
Animation	0.91
Comparative	0.83
Social cause	0.82
User image	0.73

Variable	Cohen's Kappa Coefficient (κ)
Mean	0.84

Appendix 2: Intercoder Reliability Scores for Classifying Words in Subsample (n=72).

Variable	Fleiss Kappa Coefficient (κ)
Emotional	0.65
Cognitive	0.60
Material	0.82
Mean	0.69

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