Research Paper

Exploring the appeal of online to offline (O2O) social network marketing design

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ABSTRACT

The purpose of this study was to probe the appeal of O2O social network marketing. EGM (Evaluation Grid Method) and Quantification Theory Type I were used to assess the appeal factors and specific characteristics of O2O social network marketing based on Kansei Engineering theory. In addition, the weight of the appeal factors and the characteristic of O2O social network marketing can be calculated. The results of this study revealed that O2O social network marketing gave consumers an impression of “credible and reliable” and “exact marketing” based on its unique characteristics. O2O social network marketing was proved to attract consumers and the marketing strategies were proposed in this study. The findings of this study can contribute to the field of marketing, communications and media design. The Integrated Online to offline marketing has become a new trend of business because of its significant cost effectiveness. Then, O2O marketing integrated with social network was proved to attract consumers by using its unique characteristics, and the marketing strategies of its particular way of communication were proposed in this study. The findings of this study can provide useful information for researchers, managers and designers who are interested in integrated marketing design.

Key words: Marketing, communication, design, Kansei engineering, evaluation grid method, quantification theory type I.

INTRODUCTION

Background

The success of online to offline social network marketing design indicates the achievement of marketing and mobile communication, thus prompting this study, which not only applies a semantic analysis to arrange experts’ opinion but also a mathematical technique to evaluate customers’ reactions. According to the results of investigation from research data, influencer marketing, as a new technique of social network marketing design, is expected to keep growing (Figure 1) (Influencer MarketingHub, 2020). In addition, the business opportunity for the influencer marketing is expected to expand to the worth of $9.7bn in 2020, according to the survey from USA, Europe, Asia and Africa (Influencer MarketingHub, 2020). According to this survey, the market size of influencer marketing has expanded 6 times since 2016 and reveals the potential of social media marketing. Since Coronavirus disease happened in 2019, people now rely more on computers, mobile phones and the Internet. Hence, this situation might boost the expansion of O2O social network marketing all over the world. In addition, 55% of consumers would like to use products introduced by social media and could extend their identification to them and a brand according the survey “2019 digital impression of a brand” in Taiwan (Master Cheers, 2020). This survey indicated that the new trend of business focus on how to increase impression share rather than market share. In addition, this survey also reveals that a brand cannot rely on one-way communication but must cooperate with consumers to conduct co-sensitive marketing design in the era of interaction, social media and word-of-mouth communication (Master Cheers, 2020).

Although social network marketing has huge influence on
consumers, this type of marketing has difficulty in gaining traction with them; then, offline marketing can be considered to increase the effectiveness of social media marketing (Houlahan, 2021). Furthermore, the need to make up for the shortcomings of social media marketing was what gave rise to O2O marketing. Compared to pure social media marketing, O2O social network marketing design motivates consumers in a different way during this mobile phone era, using revolutionary design methods to integrate online and offline marketing. The method helps activate consumers’ interests and improves the appeal of products. According to the estimation from Market Watch (2021), the global O2O commerce market size was USD 156,560 million and is expected to grow over two times to reach USD 393,150 million by the end of 2026. The popularity of O2O marketing design can be attributed to its cost-effective ways for the contemporary marketing and the ability to integrate social media marketing. This study named both social network and O2O marketing, which are adopted by a brand or a seller as O2O social network marketing.

Online to offline Social network marketing design integrates the characteristics of interpersonal marketing into digital marketing and lasts to thrive due to the advance in the internet as well as the mobile communications, which greatly facilitates information exchange and interpersonal interaction. Under O2O social network marketing design, traditional social marking technique, which depends on certain personalities, such as reliability, has successfully integrated into the platform of Social network to communicate with online users through harnessing the new online technologies. Although the popularity of O2O social network marketing design elicits more and more researchers to probe it, the results of studies are not only outdated but also focus on parts of this type of marketing design, such as celebrities (Grönroos, 2005) and KOL (Key Opinion Leader). Compared to the current studies, we explored O2O social network marketing design from macro points of views, such as marketing design strategies. In addition, this study probed O2O social network marketing design based on human emotions and perceptions. Furthermore, this study disclosed why consumers prefer O2O social network marketing design and which elements or traits of it should be valued according to the results of the study. Hence, persuasive marketing design strategies could be planned because of the support from the scientific results of studies.

The study focused on how O2O social network marketing design motivates consumers from the perspective of human emotions. The core concept of this study was based on Kansei Engineering, which was used for studying the appeal of the research subject- O2O social network marketing design from humans’ emotions. This study defined appeal as the loving feeling of people when they see a particular product and would cherish it, based on a famous Japanese designer, Kenji Ekuan. The concept of appeal can be used for the explanation of various situations and phenomenon in different fields, such as the appeal between two areas which can be studied and calculated through transportation volume mathematically in the field of social physics. This

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**Figure 1:** The estimation of the growth of influencer marketing from Influencer Marketing Hub.
study attempted to gauge the appeal of O2O social network marketing design by using the following two methods, including EGM (Evaluation Grid Method) and Quantification Theory Type I, which were individually used for quantitative and qualitative analysis. The former functions as a tool used to analyze semantic contents from interviewing experts. The latter functions as a mathematic tool to analyze the importance of customers’ motivations and the characteristics of O2O social network marketing design. This study was then confirmed and concluded by using Roger’s innovation diffusion theory.

Research objectives

In order to explore how online to offline social network marketing design can motivate consumers through mobile communication, Kansei Engineering, as an emotion-based theory, was used to evaluate consumers’ motivation for participating in social network marketing. In addition, how O2O social network marketing design can attract consumers via its particular characteristics was also studied based on Kansei Engineering. This study hypothesized that O2O social network marketing design has a positive influence on consumers. More specifically, this study hypothesized that O2O social network marketing design attracts consumers with its unique properties. Furthermore, consumers’ motivations and the specific design characteristics of O2O social network marketing design are clarified in this study. In addition, the importance of each consumer motivation and design characteristic were disclosed in this study. Hence, this study focused on how O2O social network marketing design can motivate consumers through the design characteristics of O2O social network marketing. The following critical issues are examined.

First, in order to comprehend why consumers prefer O2O social network marketing design based on social motivations, the design characteristics with the assistance of its mobile technology are determined through interviewing experts. Second, in order to realize how consumers prefer O2O social network marketing design, the importance of the appeal factors and design characteristics for O2O social network marketing design are quantified through statistical analysis. More specifically, this study further determined to what extent O2O social network marketing design attracts consumers and how its properties affect the appeal. The above-mentioned issues were studied through rigorous quantitative and qualitative analyses to prove that O2O social network marketing design attracts consumers with its unique design properties. In addition, these issues noted above were generalized under the research topic of “the appeal of O2O social network marketing” to investigate experts’ considerations and consumers’ responses. This study was thus divided into the following three stages using different techniques to practice Kansei Engineering and to explore the appeal of O2O social network marketing design through the following techniques.

This study was then divided into 5 to probe the appeal of O2O social network marketing design:

1)"Introduction” describes the importance of online to offline social network marketing design, some critical definition, and methods used to probe the appeal of O2O social network marketing design in this study.
2)“Literature review” discusses some important issues related to this study, including the development of O2O social network marketing design concept, the techniques of social network, Kansei Engineering and mathematical application.
3)“Research method” describes research objectives and methods used to explore the appeal of O2O social network marketing design in this study.
4)“Analysis and results” discusses the important findings to the appeal of O2O social network marketing design according to the methods used in this study.
5)“Conclusion” discloses the significance of the appeal of O2O social network marketing design based on the results of this study. Then, the contributions and limitation are listed in this section.

LITERATURE REVIEW

Interpersonal communication in marketing

The success of marketing design is often originated from the efficient interaction with customers and relies on interpersonal communication through mobile phones. Furthermore, this evidence revealed that a relationship dialogue between a firm and a customer may be established because the interaction and planned communication process are successfully integrated towards his value system (Grönroos, 2004) Interpersonal-based communication, which relies on some critical personalities, such as credibility, is often applied to traditional commercial marketing. Interpersonal-based communication is taken as an approach applied to boost activities that function for guiding people’s behaviour toward the satisfactions of individuals or organizations in society. Interpersonal-based marketing, which is known as social marketing and is always a critical issue for a brand or a company, because this type of marketing is useful and reliable. Key and Czaplewski (2017) placed emphasis on an IMC (integrated marketing communication) approach that is used to ensure consistent, persuasive messages delicately designed for selected target audiences and integrated through an exact form of communication (Key and Czaplewski, 2017). The above-mentioned argument discloses three key points related to interpersonal marketing. They are crafted messages, target audiences, and precise channels, which
conform to the partial results of this study presented in the section “discussion and conclusion”. However, although interpersonal marketing has the above mentioned advantages, it has disadvantage in the range of communication because it relies on traditional interpersonal communication which is too slow and narrow. Hence, digital and social media which has ability to deliver images, video, voice and text information for human has become a preferred medium for interpersonal communication with the proliferation of new technology (Subramanian, 2017). This led to the gradual rise of digital and social media marketing.

Digital marketing vs. social media (social network) marketing

Traditional marketing progress to the era of digital marketing occurred due to the advances of computer-based software and hardware. A brand or a sell started to take advantage of internet and online based digital technology and to use this type of powerful technique to conduct communication, such as sending email and building websites. Hence, enabled the distribution of business information to consumers fast and widely. However, this type of marketing focused on one-way communication so consumers’ feedback and responses could not return to a brand or a sell effectively. Researchers suggested that marketers must focus on interacting with customers to improve the shortcomings of digital marketing (Tiago, 2014).

Owing to new network advances, social media (social network) marketing integrates the online communication with social (interpersonal-based) marketing to become one of the mainstreams of business. Compared to digital marketing, the new type of social media marketing combines online technology with social (interpersonal-based) marketing to create a type of fast, influential, and precise distribution. Social media, such as Facebook and Instagram function as channels or platforms used to provide an interaction-based way of communication for users, which could be a customer, a brand, or a company. A brand or a company may decide to use a certain social medium as its tool to conduct social media marketing design, because consumers are willing to use it. Hence, social media play an important role in consumers’ motivations to participate in current marketing design and have become one of the most important research subjects of marketing design in recent years.

The key factor which led to the success of social media lies on the function of interaction. Briefly speaking, products or services can be marketed to consumers through the collaboration between a brand and an online influencer to interact with them. An online influencer, such as a celebrity, a KOL (Key Opinion Leader), or a maven, is key to this new type of social media marketing, which is known as influencer marketing, due to his/her huge influence upon customers online. Hence, some researchers have studied social media marketing from the viewpoint of the influencer. Jin et al. (2019) evaluated the effects of two types of celebrities with source trustworthiness, brand attitude, envy, and social presence. As far as YouTube consumers are concerned, influential factors affecting consumers’ perception of credibility include trustworthiness, social influence, argument quality, and information involvement (Xiao et al., 2018). In fact, the above mentioned credibility could be viewed as the results of social media interaction. In addition, the billion-dollar influencer marketing industry is worth exploring, because it needs a change for effective implementation (Childers et al., 2019). In this study, besides how an influencer influences customers, we also investigated how a brand or a company has motivated them through social media marketing design.

Social media marketing successfully integrated the advantages of interpersonal and digital communication. Hence, the function of social (interpersonal-based) marketing has been expanded and has become powerful through the assistance of social media ever since online technology became more popular. Social media communication has become one of the hottest subject matter in the field of marketing. In addition, how strategies of social media marketing can be developed becomes a critical issue and cannot be neglected for decision/policy makers.

Online to offline marketing design

Besides online marketing, the integrated online to offline marketing design, García et al. (2018) found that online experience has significant influence on the hotel stay experience. The study reveals the connection between online and offline marketing. Research showed that consumers choose either online or offline channel based on their reasons of sales service quality, including shopping risk, prices and promotions (Chiang et al., 2018). The results of the above-mentioned study disclose the advantages and disadvantages for online and offline marketing. Furthermore, how to integrate online and offline marketing could be an important and difficult issue.

In the background of the popularity of personal digital devices, wireless devices, such as mobile phones, are equipped with people as parts of daily life and have the functions of interactivity and mobility. Hence, people could use these mobile devices to communicate and to get online anywhere. These mobile devices provide an ideal platform for marketing design, they make commercial interactions happen anytime and anywhere (Barnes and Sornavacca, 2004). This fact disclosed that mobile devices seem to become a media to integrate online and offline communication and could be a necessary equipment to
conduct online to offline marketing design. Furthermore, an innovative model of interaction promoted through a mobile phone leads to breaking the boundary between online and offline marketing. For example, a brand or seller could realize target customers and their preferences through offline interaction. Customers are then encouraged to give some feedback using mobile phone for retaining them. Hence, online and offline marketing could be integrated with the assistance of mobile phones which helps a brand or a seller interact with customers from online to offline marketing.

Online to offline marketing which is combined with the support of social media communication, was successfully launched and has become a powerful weapon to break the traditional advertising industry because of its unique communication of interaction. Hence, researchers started to focus on how a brand communicates with customers through integrating online and offline with social media (Smith and Zook, 2012). Compared to the mentioned previous studies, this study focused on O2O marketing to evaluate how the techniques of social network marketing design were used to interact with consumers and created the best cost effectiveness for commercial promotion based on an empiric and complete research process.

Diffusion of innovations

Rogers (1962) proposed five key elements in diffusion research they include innovation, adopters, communication channels, time and social system (Rogers, 1962). As far as online to offline social network marketing design is concerned, it was perceived as a new type of communication, and is used for proceeding more effective and influential marketing for a period of time. The adopters of O2O social network marketing ranges from an individual to a company to organization. Furthermore, O2O social network marketing design uses online social network and offline experience as its channel of communication for allowing consumers share and receive information. In addition, O2O social network marketing takes advantage of online social network and offline interpersonal interaction to construct its social system which could contain numerous users, brands, companies and organizations. Hence, O2O social network marketing design conforms the research target of diffusion of innovations according to the above mentioned analysis towards the five key elements proposed by Rogers. The theory of diffusion of innovations would be further adopted to analyze the results of this study.

Kansei Engineering

This Kansei concept places emphasis on consumers’ feeling for products. Kansei means a kind of psychological factors which include emotion, sentiment and perception. Then, Kansei Engineering was initially used by Yamamoto, president of Mazda Automotive Corporation (Yamamoto, 1986). Kansei Engineering indicates transferring human feelings towards products to specific and practical physical elements in the aspect of design. Furthermore, Kansei Engineering is used to translate Kansei images into specific design characteristics, such as a product’s mechanical function (Nagamachi, 2002). This means that Kansei Engineering attempts to merge consumers’ preferences into product design. Hence, Kansei Engineering is also famous for its consumer-oriented technology. This study employed Kansei Engineering as the theory-based methodology to explore how O2O social network marketing design can motivate consumers based on their emotions. Kansei Engineering was initially applied to products and industrial designs and was used to clarify how the physical properties of a product can motivate humans to use it. Tanoue et al. (1997) took advantage of Kansei Engineering to evaluate users’ images of a vehicle’s interior, especially roominess and oppressiveness (Tanoue et al., 1997). Nowadays owing to the fast advances of technology, the interaction between human and products are not limited in a physical and touchable interface and can also be practiced through virtual simulation displayed on a computer screen. Hence, Kansei Engineering is currently used in various fields, such as media or service design, including but not limited to some particular areas that should be studied based on a physical form. Hsiao et al. (2017) integrated Kansei Engineering and online content analysis to study E-commerce in the service industry (Hsiao et al., 2017).

As far as consumers are concerned, O2O social network marketing design presents a combination of sensation, which is formed by online social network and offline social interaction. In addition, O2O social network marketing design is applied to increase impressions of a product or seller for consumers. Hence, this study primarily selected Kansei Engineering as the research core to probe the issues of O2O social network marketing design. This study examined O2O social network marketing design based on the concept of Kansei Engineering and utilized it via the technique of EGM (Evaluation Grid Method) and Quantification Theory.

RESEARCH METHODS

Research techniques

All the procedures were conducted based on the theory of Kansei Engineering, which was applied to evaluate the design of online to offline social network marketing design based on humans’ emotion and mainly used the two technique to practice this study, including Evaluation Grid Method (EGM) and Quantification Theory Type I. Figure 2 describes the structure of the research procedures and used techniques and theory.
Content analysis

EGM is used to extract experts' considerations to design questions and functions as visualization of experts' considerations and was applied as the first technique to conduct Kansei engineering in this study. EGM adopts laddering (Fransella and Bannister, 1997) as leading questions can help elicit higher/lower levels of constructs so that the reviewees' original expressions can be constructed systematically. More specifically, each reviewee is asked the reasons for which a certain kind of design is more preferable over others. After the interviews, each participant's semantic expressions are accumulated systematically for constructing the extensive structure of the considerations. This study conducted EGM (Evaluation Grid Method) for extracting Kansei words from two origins, including content analysis and in-depth interview.

In content analysis of this study, we collected articles related to O2O social network marketing design from magazines, blogs, columns, books, professional websites and forums online. We then selected these articles based on the standard of authority, correlation and reliability, 33 articles were selected from the 75 articles. After we got these articles, we began to arrange Kansei words, including adjectives and profession nouns. In fact, these Kansei words indicated the responses from experts and reflected the design characteristics and appeal factors of O2O social network marketing design based on EGM. The EGM procedure of arrangement was described as the following. The core technique of EGM arranges the Kansei words from abstract to specific concepts in a hierarchy from. The abstract Kansei words were named as “upper-level” concepts in this study, such as “authoritative”. The specific Kansei words were named as “lower-level” concepts in this study, such as “positive images of a brand”. The connection between “upper-level” and “lower-level” concepts lies in the relation of subordination. For example, the corresponding concept of the above-mentioned upper-level “authoritative” one is “positive images of a brand”.

In-depth interview

In order to systematically obtain experts opinions, EGM was used to interview the selected experts through visualized cards so as to freely and efficiently express their points of view. In the in-depth interview stage, 8 experts ranging from ages 31 to 55 were questioned on their expertise on online to offline marketing design, social network communication, and media design. The experts were selected based on their expertise, experience and ability to evaluate O2O social network marketing design. These experts were interviewed for the collection of their professional opinions based on EGM, too. However, the procedure of the in-depth interview is described as follows: a total of 45 sample cards, showing the various unique design characteristics of O2O social network marketing, were selected for the in-depth interview. Participants were asked to group these cards into three stacks according to their preferences, from high to low; the original evaluation
items were obtained by asking the participants about the abstract images and their specific reasons, which were Kansei words in this study. Each Kansei word was then processed to form its corresponding "upper-" and "lower-level" concepts. "Upper-level" indicates that the words were more abstract than the "lower-level" words in the hierarchical structure of semantics.

**Questionnaire design, distribution and semantics**

In this stage of the study, general customers’ opinions were surveyed through questionnaires. The questionnaire design was based on the results of EGM construction (Table 1). This EGM structure was composed of the upper-l, lower-l, and original evaluation items and was used to design the three-level questionnaire. The setting of the level-based construction of questionnaire is shown in Table 1. The following are examples of two typical types of questions in the survey questionnaire:

(1) How do you rate the importance of “credible and reliable” with the item ‘word-of-mouth”? (Please evaluate it by importance, scoring the most important as “5” and the least important as “1”). This type of measuring instrument was used to distinguish customers’ tendencies for O2O social network marketing design and was executed based on five-classified Liker Scale (Likert, 1932).

(2) As far as “credible and reliable” is concerned, to which specific characteristic do you feel “word-of-mouth” should be applied? (Please select one from the listed categories, such as “celebrity experience and participation”). Respondents were asked to select only one item from this type of question. Then, all the data which were collected from these two type of questions would be transferred to Microsoft Excel and analyzed using Quantification Theory Type I.

We trained three research assistants who were familiar with the research topics and survey instruments for questionnaire distribution and recovery. Then, snowball sampling was selected as the way of questionnaire distribution. Hence, the research assistants started to collect the candidate list of possible respondents who were familiar with them and the target of questionnaire survey. Furthermore, the respondents who comprehended the significance of O2O social network marketing and had experience in participating in it were selected as the research target in this study. After the selected respondents were surveyed, they were asked to provide more possible candidates to join the questionnaire survey through some encouragement, such as a small gift. The amount of respondents reached 800 after six months through online and physical questionnaire.

A total of 872 questionnaires were sent to specific areas (Taiwan, China, and Malaysia) through both physical paper and online forms to survey customers’ opinions. In addition, consumers who had experience in online social network and offline experience of interaction with a brand or a seller were selected for our target group of the questionnaire. In order to raise the rate of questionnaire recovery, we used snowball sampling and small awards to enable participants introduce their known persons to respond to the questionnaires. Among these questionnaires, 652 were returned and 582 were valid for the analysis of Quantification Theory Type I (a valid return rate 66.7 was given). Those discarded questionnaires included the extreme and wrong responses. In this study, 582 valid questionnaires were analyzed using the technique of Quantification Theory Type I, which was translated into a mathematical formula and was executed using EXCEL Macro for quantitative analysis.

**Questionnaire analysis**

Quantification Theory Type I is used to explore the relationships among variables and is equal to multiple regression analysis as the explanatory variable is a dummy variable. Furthermore, Quantification Theory Type I uses multiple regression analysis to request similar functional relations between a destination (dependent) variable and other explanatory (independent) variable(s), composed of several categories. Hence, the extent of importance between each explanatory and destination variable can be evaluated. The related mathematical functions are listed below. Figure 3 shows the functions presenting the calculation of the correlation. The value of the coefficient of determination indicates the reliability for a survey instrument; the higher the value, the more reliable the survey instrument. The partial correlation coefficients indicate the importance of values; the higher the value is, the more important the variable becomes.

Quantification Type I Method, as a quantitative tool, was used to analyze the importance of the appeal factors, reasons, and design characteristics of O2O social network marketing in this study. More specifically, Quantification Type I Method measured and quantified each importance of upper-l and lower-level items on the basis of the importance levels from the original evaluation items. Quantification Theory Type I can statistically predict the relationship between a response value and the categorical values using multiple linear regression methods (Hayashi, 1950). Moreover, in the field of design, the weights of the factors of users’ preferences can be evaluated using Hayashi’s Quantification Theory Type I (Iwabuchi, 2001; Sugiyama, 1996). The procedures were based on the above mentioned techniques and listed as the following stages: Content analysis, expert interview, questionnaire design, questionnaire distribution, data analysis.

In this stage of this study, after general customers’ opinions were surveyed through questionnaires, the data of
Table 1: The setting of the level-based construction of questionnaire.

<table>
<thead>
<tr>
<th>Level of questionnaire</th>
<th>First level</th>
<th>Second level</th>
<th>Third level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of question</td>
<td>Original evaluation item</td>
<td>Upper level (an image)</td>
<td>Lower level (a specific trait)</td>
</tr>
<tr>
<td>The example of a question subject</td>
<td>Credible and reliable</td>
<td>Word-of-mouth</td>
<td>Celebrity experience and participation</td>
</tr>
</tbody>
</table>

\[ y = \sum \beta x + e \]

\[ \beta_1 = \frac{\gamma_{12} - \gamma_{13} \gamma_{23}}{1 - \gamma_{23}^2} \]

\[ \beta_2 = \frac{\gamma_{13} - \gamma_{12} \gamma_{23}}{1 - \gamma_{23}^2} \]

\[ R = \sqrt{\beta_2 / \gamma_{12} + \beta_3 / \gamma_{13}} \]

Figure 3: The functions presenting the calculation of correlation.

The data were collected from customers' responses and recorded from the valid questionnaires to Microsoft Excel, then they were analyzed and calculated through the functions of Quantification Theory Type I. The details were shown in consumers reactions.

Experts' considerations

After collecting experts' opinion from content analysis and interviews, experts' considerations are presented as the structure of EGM (Figures 4 and 5). As far as the “credible and reliable” item is concerned, its corresponding “upper-level” concepts were “authoritative” and “word-of-mouth”, of which totally matched “lower-level” concepts were “a maven's (someone who owns professional knowledge) opinions”, “participation of Key Opinion Leader (KOL)”, “celebrity experience and participation”, “positive images of a brand”, “influential friends' recommendations”, “bloggers' recommendation”, “close to daily life”, and “soft/indirect articles”. As far as the “precise and extensive” item is concerned, its corresponding “upper-level” concepts were “influential”, “exact”, and “experiential”, of which totally matched “lower-level” concepts were “easily distributed widely”, “promoting issue discussion and sound volume online”, “promoting exposure online”, “increasing the amount of followers or fans”, “fast distribution”, “using hashtags for showing customers’ interests”, “personalized
marketing”, “high cost effectiveness”, “considering customers’ preferences”, “knowing who target customers are”, and “increasing customer retention”. In addition, the contents of the interviews were recorded and summarized in the form of hierarchy diagrams (Figures 4 and 5), which were then used as the foundation for the design of a
Table 2: Original impressions of the top two selected according to the number description in the EGM hierarchical chart and their reasons.

<table>
<thead>
<tr>
<th>Original images</th>
<th>Upper level (reasons)</th>
<th>Lower level (specific attributes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credible and reliable</td>
<td>Authoritative 18 (1)</td>
<td>A maven’s (someone who owns professional knowledge) opinions 12 (3)</td>
</tr>
<tr>
<td></td>
<td>Word-of-mouth 15 (3)</td>
<td>Participation of Key Opinion Leader (KOL) 11 (4)</td>
</tr>
<tr>
<td>Precise and extensive</td>
<td>Influential 17 (2)</td>
<td>Promoting issue discussion and sound volume online 13 (1)</td>
</tr>
<tr>
<td></td>
<td>Exact 13 (4)</td>
<td>Using hashtag for showing customers’ interests 13 (1)</td>
</tr>
</tbody>
</table>

*number in the "()" indicating ranking.

Table 3: Original impressions of the top two selected according to the number description in the EGM hierarchical chart and their reasons.

<table>
<thead>
<tr>
<th>Items</th>
<th>Categories</th>
<th>Category scores</th>
<th>Partial correlation coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authoritative</td>
<td>A maven’s opinions</td>
<td>-0.006</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Participation of KOL</td>
<td>0.093</td>
<td>0.414</td>
</tr>
<tr>
<td></td>
<td>Celebrity experience and participation</td>
<td>-0.076</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Positive images of a brand</td>
<td>0.043</td>
<td></td>
</tr>
<tr>
<td>Word-of-mouth</td>
<td>Influential friends’ recommendations</td>
<td>0.081</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bloggers’ recommendations</td>
<td>-0.085</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Close to daily life</td>
<td>-0.085</td>
<td>0.600</td>
</tr>
<tr>
<td></td>
<td>Letting a consumer fitting in usage scenario of a product</td>
<td>-0.069</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Soft/indirect articles</td>
<td>*0.124</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>0.592</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R=</td>
<td>0.644</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R²=</td>
<td>0.415</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The upper-level reasons with a higher number of times were also determined using EGM and are then transferred to Table 2, which shows their ranking by the number of accumulated times. Table 2 Lists the best two “original images and reasons” and their best 4 corresponding Kansei words selected from the hierarchical diagram by the higher number of times they appeared. In order to quantify the selected items and to give a score to the correspondent appeal factors for online to offline social network marketing, questionnaires were created using a level-based construction, which is composed of upper and lower levels based on EGM as shown in Table 2.

Customers’ reactions

The first appeal factor categorized is “credible and reliable”, which includes “authoritative” and “word-of-mouth”. The classifications indicated that users had the impression of “credible and reliable” on online to offline social network marketing, because of the two above-mentioned reasons. The reason of “word-of-mouth”, with the highest partial correlation coefficient, had the most influence on the appeal factor “credible and reliable”; “influential friends' recommendations”, “bloggers’ recommendations”, “close to daily life”, “letting a consumer fitting in usage scenario of a product” and “soft/indirect articles” were included in this category. In addition, according to the category scores, “soft/indirect articles” had the most positive influence on “word-of-mouth” and “bloggers’ recommendations” and “close to daily life” had the most negative effect on “authoritative”. The second factor to be analyzed was “precise and extensive”, which comprised “influential”, “exact” and “experiential” in the upper-level assessment. According to the results of the Quantification Type I shown in Table 4, the coefficient of determination (R²) was 0.517 and shows standard reliability for the survey instrument. “Exact” contributed most to the “precise and extensive” factor, because it had the highest partial correlation coefficient. The categories that belong to “exact” included “using hashtags for showing customers’ interests”, “personalized marketing” and “high cost effectiveness”. Furthermore, according to the category scores, “increasing customer retention” of all the categories. Moreover, “fast distribution” had more negative influence on “exact” of all the categories.
Table 4: The partial correlation coefficients, the category scores, and the coefficient of determination for the factor of “precise and extensive”.

<table>
<thead>
<tr>
<th>Items</th>
<th>Categories</th>
<th>Category scores</th>
<th>Partial correlation coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influential</td>
<td>Easy to be distributed widely</td>
<td>0.013</td>
<td>0.386</td>
</tr>
<tr>
<td></td>
<td>Promoting issue discussion and sound volume online</td>
<td>-0.042</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Promoting exposure online</td>
<td>0.035</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increasing the amount of followers or fans</td>
<td>0.031</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fast distribution</td>
<td>-0.152</td>
<td></td>
</tr>
<tr>
<td>Exact</td>
<td>Using hashtag for showing customers’ interests</td>
<td>0.244</td>
<td>0.624</td>
</tr>
<tr>
<td></td>
<td>Personalized marketing</td>
<td>-0.136</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High cost effectiveness</td>
<td>0.156</td>
<td></td>
</tr>
<tr>
<td>Experiential</td>
<td>Considering customers’ preferences</td>
<td>0.048</td>
<td>0.479</td>
</tr>
<tr>
<td></td>
<td>Knowing who are target customers</td>
<td>-0.045</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increasing customer retention</td>
<td>*0.322</td>
<td></td>
</tr>
</tbody>
</table>

C = 0.779  
\( R^2 = 0.517 \)

CONCLUSION

Online to offline social network marketing design, as a type of revolutionary way of communication, can be explained through Rogers’s Innovation Diffusion Theory, because this theory is capable of interpreting how new information can be distributed and accepted. The semantic structure of appeal of O2O social network marketing design, from the results of EGM analysis, herein showed the hierarchy of the relationship among appeal factors, the reasons for consumers’ preferences, and the specific characteristics. The results presented that consumers are affected by O2O social network marketing design based on “credible and reliable” and “precise and extensive” factors. The two factors indicate that O2O social network marketing adopts innovative design strategies different from the traditional way. More specifically, this type of strategy focuses on how to gain trust from customers and how to market them precisely. The “precise and extensive” indicates that a brand or a company can spend less cost, but get more benefits, and so it would like to make changes by being in charge of O2O social network marketing. The factor “credible and reliable” reflects the successful operation of the online and offline social system, which Rogers disclosed in the Innovation Diffusion Theory. O2O social network marketing distributes information of a brand or product to heterogeneous members through the integration of online social network and offline experience, and so their acceptance to such innovative information becomes higher. In addition, important characters, such as KOL, Marven, or Celebrities, play important roles in the social system and boost the distribution of new information.

O2O social network marketing motivates consumers based on five reasons, they include “authoritative”, “word-of-mouth”, “influential”, “exact”, and “experiential” considerations. These five reasons disclosed customers’ motivations to participate in social network marketing and can be categorized into three elements for the success of O2O social network marketing, including delicately designed messages, target customers, and exact communication, which reflect Key and Czapelewski (2017) arguments (Grönroos, 2004). More specifically, social media marking creates contents and values through social media and reflects Bill Gates’ phrase- “Content is king”. This fact indicates that content design is key to the success of O2O social network marketing. Then, O2O social network marketing reflects a fact that the owner of content changes from big organizations to individuals, who are known as influencers if popular online. This means that if a brand or a company can seek a suitable influencer, it has a chance to promote its visibility online by generating influential contents continuously (Grönroos, 2004). This evidence also shows that target customers of media were transferred from the public to the minority to conduct exact communication. Customers are willing to participate in the process of online to offline social network marketing, because of the popularity of O2O social network marketing, and so a brand or a seller also can conduct a marketing strategy effectively. The participation and activities of “influencers”, for example celebrities, idols, and TV stars, can be used to increase credibility of product or service via social media. In addition, all the “lower-level” concepts, such as “using hashtag for showing customers’ interests”, can be considered as the useful techniques, showed what
specific means a brand or a seller uses to attract consumers. Lee suggested that the design of influencer marketing can be considered from “consumer journey” to conform consumers’ needs in different phases (Lee, 2018). As far as “experiential” are concerned, the factor mainly relies on the offline communication to interact with customers through physical environment, so the design characteristics, such as “knowing who are target customers” and “increasing customer retention” could be practiced.

O2O social network marketing has become one of the mainstream way to plan efficient and influential marketing and this trend seems to have lasted for several years which made a lot of brands or firms scramble to imitate this type of promotion. However, if the essence of O2O social network marketing design could not be comprehended through right direction, brands or firms could produces the reverse effect. This study focuses on how consumers are willing to use O2O social network marketing with unique design characteristics and initially probed the overall strategies of O2O social network marketing based on humans’ emotions and perceptions. In addition, consumers’ motivation and the appeal design characteristics of O2O social network marketing could be determined through this study. Hence, the benefit of this study results is to make overall strategy to plan the design of O2O social network marketing design, compared to other studies with emphasis on its specific elements, such as influencers and brands (Stubb et al., 2019). We expect that the insight of this study could be helpful to plan O2O social network marketing design for managers or designers in the market. The results of this study could also be a reference for researchers with interest in O2O social network marketing design. This study also contributes to the field of O2O marketing, media design and communication.

The limitations of this study are as follows. First, it had some language barriers. It relied on semantic-based EGM to proceed content analysis, including the contents of articles and interviews. This means that languages or words which were transferred to Kansei words needed more corresponding efforts and abilities. Hence, it was hard to collect more data from non-Chinese and non-English. In addition, during the process of conducting the questionnaire survey, even though most of the responding individuals were well informed and motivated to participate, possible biases of cognition existed due to language or personal differences in their comprehension of the descriptions in the questionnaire. Secondly, the concept of an influencer in different countries or areas varies for many reasons and could be attributed to the influences of culture or society. For example, influencers are viewed as common people in Japan not celebrities in Taiwan. Thus, the current data collected from specific institutions in Taiwan, Malaysia, and mainland China may not be representative of wider populations. Thirdly, this study only concentrates on the success of O2O social network marketing design from the perspective of business and marketing design. Hence, how customers could be affected through the design characteristics of O2O social network marketing was the focus in this study.

In our future studies, we plan to focus on users of social media in aesthetics communication not customers in social media marketing design. Hence, it will target how users interacts with social media through aesthetics communication. We plan to study the appeal of social media in aesthetics communication from a user’s point of view, such as how social media attracts users through organized text and images, SEO (Search Engine Optimization) and graffiti wall. In addition, how to design appeal contents of social media in aesthetics communication could be a critical issue based on our future study.

REFERENCES


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