

Effects of Online Advertising Strategy on Attitude towards Healthcare Service

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Abstract

Online advertising strategies for health care services remain under-investigated in spite of the current popularity of these services. Due to the industry characteristics and legal regulations towards medical services in many countries, hospitals and clinics ignored advertising planning for decades. Today, not only the environment but also medical products have changed. With the enhanced living standards, more and more people accept the concept of preventive medicine, and the market for various healthcare services is undergoing rapid growth. However, doctors and practitioners are still limiting themselves to the past scope and neglecting the promotion challenges of the healthcare services. The current research draws attention to the interdisciplinary nature of healthcare services, advertising, and Internet technology. Based on sound theories, this study proposes a model exploring how personal attitudes toward a healthcare service may be changed by shaping the nature of the endorser and the information displayed in the online advertising. In particular, this study uncovers how men and women may differ in their perception-forming process. Theoretical contributions are discussed accordingly.

1. Introduction

Healthcare services today are very different from those in past decades. With the evolution of economic and living standards, the healthcare service, which is separate from the medical treatment of illness, focuses more on the prevention and management of illness and the preservation of mental and physical well-being through the services offered by the medical and allied health professions. Although in most countries the former service is generally not being advertised, in the latter, due to its health consultancy nature, marketers are seeking ways to communicate with potential consumers more effectively. As doctors and clinics have been so used to ignoring promotion for decades, the knowledge of how to apply advertising strategies for the healthcare service is lacking.

Notably, younger and more educated professionals are taking a more active role in decisions such as what healthcare service they will choose, where they will receive the healthcare service, and from whom they prefer to have the healthcare service delivered [1]. This trend forces healthcare service practitioners to transform from assuming that patients will fully accept the physician's authority [2] to the demands of developing a customer-driven strategic approach [3]. More specifically, as there have been dramatic structural and environmental changes in the ways in which communication about healthcare services occurs in the past decade, it is essential to verify how online advertisements affect consumers' decisions about healthcare services. Practitioners are also eager to know how to apply Internet technology to advertise their healthcare services successfully, since in the real world, the healthcare market environment is becoming increasingly competitive.

The current study argues that the inherent intangible feature of the healthcare service creates the demand for unique marketing strategies that differ from tangible products. A body of literature has indicated that services are characterised by intangibility, inseparability, heterogeneity and perishability, and are unique from the product [4]. Service marketing thus should be different from product marketing in terms of the implications of strategy [5] and advertising [6]. In fact, online advertising has been quickly applied as one of the most powerful and economical communication channels for healthcare services. More specifically, we focus on health care services that prevent or screen for diseases instead of dealing with acute illness. For such services, consumers expect an extremely high professional quality as compared to any other services. In particular, Booms and Bitner [7] indicated that the intangible nature of services has made the marketing strategies for services more complex than those for products. In other words, being a professional service, consumers may perceive higher risks associated with the healthcare service compared to general services.

To ease such uncertainty, past studies have reported that using a visual tangible cue or illustration can be useful to that service advertisement via offering an observable means of tangibilizing an intangible service [8]. Supportively, Childers and Houston [9] indicated that advertisements using pictorial and visual messages created a better recall as opposed to those with only symbolic information. Moreover, Stafford [8] also asserted that using an endorser is an effective approach to increase tangibility. However, while marketing research has provided fruitful results regarding how these two advertising techniques may shape consumers' decision-making across different product categories, little is known about the ways in which these two strategies may shape individuals' attitudes toward healthcare service choice in the online market.

The objectives of the current study are thus fourfold: (1) to determine whether the endorser nature in terms of the doctor and patient may affect the individual's perceived quality and trustworthiness toward the healthcare service in the online advertisement; (2) to examine whether the online information displayed in terms of pictures with text or text only may further shape their perceived quality and trustworthiness toward the healthcare service advertised; (3) to verify the influence that perceived quality and perceived trustworthiness may have on individuals' attitudes towards the healthcare service; (4) to uncover whether the gender will moderate the relationships between perceived quality/attitude and trustworthiness/attitude. By applying the consumer decision-making theories and advertising theories to elaborate the roles of endorser and information display format in shaping the attitude towards a healthcare service via the lens of perceived quality and reputation, physicians and clinic administrators are better able to understand the needs of customers in the healthcare e-marketplace.

2. Literature review and research

hypotheses

2.1. Healthcare service

Traditionally, patients who dependently make their own choices in most healthcare interactions was refer to a customer [10]. In Asian-pacific areas, more and more modern and luxury healthcare centers were established to target and serve the high-end customers. Tailored healthcare programs were designed to meet each customers' needs base on his/her health conditions. In the past, patients needed to wait for the physician in the public areas. Very often, they may have to wait up to one hour to have a brief talk with the physician in

front of two other patients who are also waiting in the small consulting room. Today, the exams of these top-end healthcare services are conducted in an environment as comfortable as a 5-star hotel. There will be personal healthcare assistants to support customers through the whole examination process. Reservations are required for these services, hence customers will rarely meet other patients during the process to enjoy the highest level of privacy. The exams in general take about 2 hours depending on the exams the customer selects. After that, a group of 4-6 physicians with different specialties will provide their professional suggestions to the customer according to the examination outcomes.

These changes indicate that customers today are willing to spend more money and are ready to take a more active role in choosing the healthcare service providers. The characteristics of this new customer segment are not like patients in the past who will follow everything the physicians propose. Consequently, to be successful in this dynamic healthcare service market, the service providers must transform their offerings to a more customer-centered and market-driven position. More importantly, unlike any other services, the healthcare service is highly relevant to the personal physical welfare. Hence, consumers put much higher value on professional expertise while evaluating such service than that they would have placed on any other services. This unique feature may result in a very different mindset of consumers while making a healthcare service decision as compared to a purchase of general goods. Understanding consumers' decision process toward the healthcare service, and the crucial factors that may shape this process is therefore the top concern for the service providers.

2.2. Effects of endorser and information display

Endorser advertising is popular because it is commonly believed that messages delivered by well-known people may achieve a higher level of brand and advertisement recall [11], and the product-image tends to be more favorable when celebrities are used [12]. However, an effective advertising campaign requires the right endorser to deliver the message in the appropriate way. Selecting the right endorser is thus an essential but difficult choice. When a message is delivered by the right endorser, a higher persuasion effect is more likely to occur [13], and the attitude creation may be more likely to be changed by the argument quality [14]. For example, the expert endorsers were found to be more effective for

household products whereas celebrities were more effective for luxury products [15]. Moreover, it is also reported that when reading messages delivered by an endorser matching their self-schemata, customers tend to elaborate more on the persuasive message than those who read messages that do not match their self-schemata. That is to say, customers prefer to pay more attention to those endorsers from the same race as they are, at similar age as they are, or even the same gender as they are.

While the second school of scholars contend that the similarity between the communicator and the intended audience is the most important aspect of credibility [16], the first school of scholars maintain that the knowledge extent and audience-perceived skills of the communicator are critical in attempting to influence through advertising [17]. That is to say, in the context of healthcare service, some believe that using the patient (i.e., similarity to intended audience) to deliver the message may affect consumers' attitude of healthcare service while others contend that using the doctor (i.e., knowledge extent) is more effective.

Similarly, the vividness of information is also found to dominate consumers' attention and judgment. For instance, Nisbett and Ross [18] indicated that as compared to low imagery stimuli (e.g., abstract language), a concrete and imagery-irritating stimuli (e.g., pictures) was more likely to affect consumers' attitude. Consistently, Smith [19] argued that when there are both explicit visual and explicit verbal messages which describe the product features in one advertisement, consumers' perceptions are likely to be dominated by the visual message. Singh et al. [20] further proposed the "picture superiority effect" to elaborate the concept that consumers tend to have superior memory or recalls toward pictures over words. In support, Paivio [21] asserted that pictures are more easily to be remembered spontaneously than words. This may be due to the multiple retrieval routes created by the pictures which will later transformed to the greater number of memory codes [22]. Petty and Cacioppo [23] have proposed that the low elaboration was more likely linked to imagery (e.g., pictures) processing whilst the high elaboration was more relevant to discursive (symbolic, language-like) processing.

In the context of healthcare service, this study argued that by creating the appropriate tangible signs, that is, the endorsers (doctor vs. patient) and online information display (picture vs. text), consumers are more likely to perceive the "tangibility" of the healthcare service and change their attitude via their

perceptions of online advertising quality and trustworthiness. Further, as past studies contended that male and female differ in their way of making a decision online (e.g., [24]), it may be important to further uncover how the online healthcare service advertising should persuade to these two consumer groups more effectively. Based on the above discussion, this study proposed the research model (see Figure 1) and propositions were presented in the following sections.

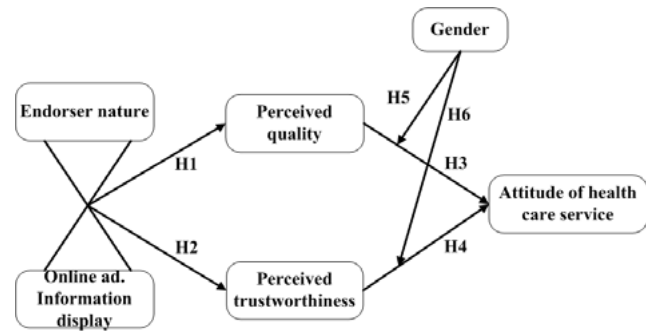


Figure 1. Research model

2.3. Perceived quality

Lane and Russell [25] suggested that service providers may apply advertising strategies to create tangibility and facilitate customer's decision: (1) relevance with an extrinsic person, event, or object; (2) physical image of service components; and (3) documentation such as facts or figures to delineate the service feature explaining characteristics of the service. When a message is delivered by the right endorser, a higher persuasion effect is more likely to occur [13], and the attitude creation may be more likely to be changed by the argument quality [14]. For example, the expert endorsers were found to be more effective for household products whereas celebrities were more effective for luxury products [15].

Moreover, it is also reported that when reading messages delivered by an endorser matching their self-schemata, customers tend to elaborate more on the persuasive message than those who read messages matching their self-schemata. Friedman and Friedman [15] thus summarized that the endorser with positive elements such as good skill, self-image, and professional opinions would be more effective for those products whose psychological or social risk was high. The doctor endorser was consequently regarded as most appropriate for high physical risks. Further, Stafford et al. [11] also argued that adding a picture to the text in advertising is a useful approach to

enhancing tangibility. By doing so, Hite et al. [26] contended that the image perceptions and quality perceptions toward the advertising would not be harmed if service evaluation was easy. It was thus proposed that:

- H1: Consumer may perceive the highest quality when the online healthcare advertising uses the doctor celebrity with text and picture display, but when the advertising uses the patient's celebrity with text display only, they may perceive the lowest quality.

2.4. Perceived trustworthiness

Trustworthiness refers to the honesty and believability of the source [27]. Information sources are believable because the message is perceived to have correctness by the audiences [28]. If an individual perceives a source to possess high trustworthiness, that individual will be more receptive to messages from that source and accept the advice contained therein [29]. Further, a highly trustworthiness source is more effective than a less trustworthiness source in producing more positive attitude changes towards the position advocated and to induce more attitudinal changes [30].

Endorsers have been extensively applied in the advertisement to shape consumers' judgment of the trustworthiness of information [31]. Wathen and Burkell [29] pointed out that whether the information is trustworthiness was found to be a result of an interaction between the source characteristics (e.g., expertise or likeability), message characteristics (e.g., information quality), and receiver characteristics (e.g., previous beliefs). In other words, in the context of healthcare service, customers may perceive various extent of trustworthiness towards the online advertising based on the characteristics of celebrity nature, such as a doctor or a patient. In the online world, Lim et al. [32] practically reported that a customer endorser will significantly affect customers' trust in the B2C Webstore. Consistently, Senecal and Nantel [33] indicated that both expert and customer endorsers are effective recommending sources for online consumers. Considering customers perceive the healthcare service was highly professional oriented, it was proposed that:

- H2: Consumer may perceive the highest trustworthiness when the online healthcare advertising uses the doctor celebrity with text and picture display, but when the advertising uses the patient's celebrity with text display only, they may perceive the lowest trustworthiness.

2.5. Attitude of healthcare service

Consumers naturally form an attitude of healthcare service after seeing the online advertisement of this service. A body of literature suggested that the attitude may affect and lead to customers' behavioral intentions. In fact, perceived quality which was asserted to be a less abstract concept than attitude was empirically found to precede the attitude formation in the consumer decision making process [34]. In support, Aaker and Keller [35] proposed that the perceived quality is likely to have a positive effect. They argued that if the brand is regarded as having a high quality, the brand attitude should be of benefit from that perception. In the context of healthcare service, if customers perceive the healthcare service message delivered in the online advertising with high quality, their attitude toward the healthcare service shall also be enhanced. It was thus proposed that:

- H3: The perceived quality is positively associated with the attitude of the healthcare service.

As previously discussed, trustworthiness is consumer's confidence in the source for providing information in an objective and honest manner [36]. The Elaboration Likelihood Model [23] also suggests that endorser effects have traditionally been linked with the peripheral route to attitude change. More specifically, Lafferty and Goldsmith [37] further reported that there was a positive relationship between the trustworthiness and attitude change. That is to say, through the online advertising messages, when consumers trust the endorser who delivers the messages of healthcare service, their attitude towards the healthcare service shall also change. It is thus proposed that:

- H4: The perceived trustworthiness is positively associated with the attitude of the healthcare service.

2.6. Gender difference

Past studies consistently indicated that men and women differ in many ways, in particular how they receive and recode the messages [38]. In other words, men and women are likely to apply unconscious or internalized actions, leading to the different perceptions and decision-making process. Gefen and Straub [24] were the first to urge IS researchers to explore how men and women may differ in their usage of information technologies.

For example, Sanchez-Franco et al. [39] reported that as compared to men, women’s trust and commitment have greater influence on their commitment and loyalty in the e-marketplace. Consistently, women’s trust was also found to play a more significant impact on their intention to shop online [40]. Female bloggers, according to Zhang et al. [41], are also more sensitive to satisfaction and less responsive to attractive alternatives. In contrast, men were found to value their ability to post content online [40], their decisions about using technology are more strongly influenced by their perceptions of its usefulness [42], and present lower levels of involvement regarding the online decision aid [43]. Building on these literatures which signified how men and women may act differently in their perceptions, it is hypothesized that:

- H5: Gender will moderate the association between perceived quality and attitude of healthcare service
- H6: Gender will moderate the association between perceived trustworthiness and attitude of healthcare service

3. Research methodology

3. 1. Experiment design and participants

A 2*2 between-subject full-factorial design was employed. The two independent variables were endorser type (doctor v.s. patient) and information display format (text only v.s. text with picture). A total of 104 volunteers from the Open University at south Taiwan were recruited. Up to 60% of the participants were female. More than 61% of participant’s age was between 20-35 years old, approximately 36% was between 36-55 years old, and only 2.1% was above 65 years old.

Subjects were randomly assigned to the four experimental treatments (see Table 1). The participant would watch an online advertising video (approximately 3 minutes) and fill out the questionnaire relevant to this advertising video afterwards. The whole research process lasted about 10 minutes.

3. 2. Measurements

Three constructs were examined in this study. Perceive quality was defined as the subject’s perception towards the healthcare service being advertised online and its ability to fulfill his or her

expectations. Four items adapted from Hellén and Sääksjärvi [44], including “superior to other healthcare services, excellent overall quality, impressive quality, and high standard” were used in this study with a seven-point Likert scale. Trustworthiness was measured using three items adapted from Jin [45] with a 7-point semantic differential scale (undependable to dependable, dishonest to honest, and untrustworthy to trustworthy). Attitude towards the healthcare service referred to the tendency to respond positively or negatively towards the healthcare service advertised online in this study. Four items adapted from Hampel et al. [46]: “dislike, appealing, attractive, and bad” was adapted in this study.

Table 1 Participants in each treatment

Info. Display	Endorser		
	Doctor	Patient	Total
Text only	22	29	51
Text with picture	25	28	53
Total	47	57	104

4. Statistical analysis

The analysis was conducted using SPSS for Windows Version 17.0. The Cronbach alpha value was 0.88 for perceive quality, 0.87 for perceived trustworthiness, and 0.91 for attitude towards the healthcare service. The scales were also tested for construct validity using factor analysis. The result shows that factor loadings on the intended constructs were all above 0.70, and cross-loadings were no higher than 0.40, indicating that they were unidimensional. Thus, all the constructs demonstrated adequate reliability and validity.

Multivariate analysis of variance (MANOVA) was employed to verify the effects of endorser nature and online Ad. information display on perceived quality and perceived trustworthiness. The results indicated that the interaction effect between endorser nature and online Ad. information display was significant (Wilks’s $\lambda = .42, p < 0.01$). Thus, univariate analysis of variance was performed to explore the interaction effects on each dependent variable. The results showed that the interaction effect between endorser nature and online Ad. information display significantly affected subjects’ perceptions of perceived quality ($F=12.17, p<0.01$). Subjects have higher perceived quality when the online healthcare advertising uses the doctor celebrity with text and picture display. But when the advertising uses the patients’ celebrity with text display only, subjects have lower perceived quality.

Thus hypothesis 1 was supported. Moreover, the interaction effect between endorser nature and Ad. information display on perceived trustworthiness was significant ($F=15.02$, $p<0.01$). Subjects perceived highest trustworthiness when the online healthcare advertising uses the doctor celebrity with text and picture display. But when the advertising uses the patient's celebrity with text display only, subjects perceive the lowest trustworthiness. Therefore, hypothesis 2 was confirmed.

To test hypotheses 3 and 4, the attitude of the healthcare service was regressed onto both perceived quality and perceived trustworthiness. The results indicated that the regression model had a high and significant F ratio ($F = 20.25$, $p < 0.01$), with an acceptable fit (adjusted $R^2 = 0.36$). The beta coefficient for perceived quality was 0.39 ($t = 8.12$, $p < 0.001$), whilst that of perceived trustworthiness was 0.32 ($t = 6.21$, $p < 0.001$). Accordingly, Hypotheses 3 and 4 were both supported.

This study employed Baron and Kenny's [47] method to test hypotheses 5 and 6. The results showed that the path coefficient from perceived quality to attitude of healthcare service for the male model was significantly stronger than that for the female model ($z = 2.02$, significant at 0.05 level). Thus, hypothesis 5 was supported. Moreover, the path coefficient from perceived trustworthiness to attitude of healthcare service for the female model is significantly stronger than that for the male model ($z = 1.99$, significant at 0.05 level). Thus, hypothesis 6 was supported.

5. Findings and conclusions

Statistical results were strongly supportive of our study's goals. We found that (1) there was an interaction effect between the endorser strategies and information display format; (2) when the doctor endorser was used with the text and picture to present the message, consumers will perceive a higher quality and trustworthiness of this healthcare service; (3) perceived quality and trustworthiness are positively and significantly associated with consumers' attitude toward healthcare service; (4) men and women differ significantly in the ways of how their perceived quality and trustworthiness will affect the healthcare attitude, respectively. Given that the nature of healthcare service and the emerging healthcare market, it is crucial to confirm the usefulness of online advertising strategies endorser and information display in changing customers' attitude towards the healthcare service being advertised. More importantly, as hospitals and clinics generally overlook the advertising strategies in

the past, our findings are able to broaden the current knowledge frame of online healthcare service marketing.

The theoretical contributions of our study are three-fold. First, by testing the service marketing issue of healthcare service on the Internet marketplace, the current study has added value to the health service industry from an interdisciplinary perspective. Second, as the healthcare service is a unique service that is highly relevant to physical risk, the current study pioneers the propositions regarding how to integrate the endorser and information display strategies to shape customers' perceptions of quality and trustworthiness. Third, by showing how men and females may perceive the online messages of healthcare service differently, we added value to the important issues that have been overlooked for decades in the healthcare industry.

In regards the managerial implications, this study may contribute to the healthcare service providers the process of how to change customers' attitude by controlling the endorsers and information display to "tangibilize" their perceptions. More specifically, it will address the question of whether service providers should choose the "doctor endorser" or "patient endorser" and in which these two endorser types may be the most effective to be applied with the pictures or texts. Still, additional empirical examinations are required to further examine the robustness of this study's model.

Our findings have several implications for healthcare service executives. First, according to these results, the healthcare services that may target women as core consumers, such as feminine complaints, shall realize that women value trustworthiness more than perceived quality while consuming the healthcare service online. Consequently, the best strategy to communicate with these core consumers is to enhance their trust via trustworthy endorsers. In contrast, for healthcare services that men would concern more, such as gout, shall position their advertising strategies via the lens of perceived quality rather than trustworthiness. Still, whether for men or women, since the online advertising strategies of endorser and information display effectively shape their cognitive perceptions, the importance to wisely leverage the online advertising influence is crucial for clinics and practitioners.

As in most research, our study had limitations. First, it employed a controlled laboratory experiment to collect data rather than using a survey method.

Consequently, we may not be able to assess online consumers in the general environment. Further, as the empirical results were based on a single experiment, further studies were essential.

Acknowledgements: This research was supported by the National Science Council in Taiwan under grant numbers 101-2410-H-415-007-MY3 and 100-2628-H-009-026-MY3.

6. References

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