

INTERNET MARKETING WITH CLOUD COMPUTING AND TRAVEL AGENCY REACTION

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ABSTRACT

The purpose of this study is to examine what professional reactions are appropriate while facing the rising development of cloud computing? Also, this study seeks to reveal the specific personal thoughts of travel agency salespeople if they do feel threatened. At its conclusion, this study will provide suggestions for training programs or criteria of recruitment for the human resource directors in travel agencies. Also, those interested in travel business may use the results of this study as guidelines as they prepare themselves for the impact of cloud computing in Internet marketing.

Keywords: *Internet Marketing, Cloud Computing, Travel agency*

1. INTRODUCTION

Cloud computing is a current trend that discloses the next-generation application in all different kind of business [1]. Not only personal use of cloud services such as webmail, facebook, YouTube for some years, but also the organizations have started to apply cloud services as a tool for their IT needs. It is estimated that by 2013 the cloud market will have reached \$8.1 billion [2]. According to Rizzi, technology has progressed so rapidly that Internet marketing has become more and more important in the “marketing mix [3].” In the past ten years especially, the economy and society have changed rigorously, and not only the incomes of consumers but also the dollar amounts of purchases have risen. Consumers’ habits of purchasing travel products are more different than ever. In order to occupy this market, most travel agencies have invested plenty of resources and manpower in cloud computing in order to provide the new business opportunities and increased convenience the Internet can provide, through which customers can purchase their travel products. As a result, how do traditional travel agency salespeople feel about this change? Do travel agency salespeople feel threatened in their work, since consumers can now purchase travel products directly over the Internet? Or do these professionals view the Internet as a prosperous new mode of business development? The purpose of this research is to examine what professional reactions are appropriate while facing the rising application of cloud computing?

2. LITERATURE REVIEW

The use of the term ‘cloud’ is metaphorical and typically points to a large pool of usable resources such as hardware and software that are easily accessible via the Internet [4]. Its notable features include its market-oriented architecture which is regulated by the supply and demand of cloud resources at market equilibrium [5]. Characteristics of cloud computing are somewhat defined by the exiting computing concepts such as network computing, grid computing, utility computing, pervasive computing, and service computing [6].

According to Kotler, marketing is a social and management process by which a person or a group can create values and trade products to satisfy people’s needs and desires, and this process by the way of Internet is referred to as “Internet marketing [7].” Enterprises identified the opportunity to utilize the Internet as a medium to provide and transfer information in order to achieve the goals of promotion and sales. McMaster pointed out that executing Internet marketing with promotion and sales could increase sales volume considerably [8]. Kumar stated that a business is suitable for Internet marketing when it 1) provides a service, 2) sells fashion products, 3) offers a product for which customers are seeking a low price, and 4) provides a low product delivery cost [9]. In such situations, businesses can easily build a sustainable relationship with clients and achieve increased sales goals.

Cloud computing serves different purposes and target different customers however they share a common business model that is that they ‘rent’ the use of their computing resources including services, applications, infrastructures, and platform to customers. This model is similar to the application service provider model in which a service provider provides software, infrastructure, people, and maintenance to run in a customized fashion for the customer [10]. Paperless on-line ticketing system provides not only cost reduction but also time saving benefits [11]. Higgins, Thompson, and McAllister concluded that travel agencies can gain the following advantages by using Internet marketing: 1) sales can proceed in all-day, year-round marketing broadcasting, 2) updates to travel information can take place any time without a printing fee, 3) costs are reduced through the integration of paper and electronic media with multimedia materials, 4) travel agencies can supply hyperlinks with travel information through which consumers can learn and seek more services, 5) companies enjoy better selling effects when consumers initiate their own browsing of travel information on the Internet, 6) customers can buy the travel products they want directly, and 7) Internet marketing techniques can focus on a specific target population[12] [13] [14].

Travel products are seldom necessities; therefore, it is often difficult to push sales. The travel industry, as a service business, combines high-quality service with well-trained customer relationship skills. Personal selling plays an important role in the purchase process. Assael indicated that most travel agency consumers understand the importance of tour arrangements, so their buying behaviors require high involvement [15]. Therefore, the selling process is considered part of the assistance given by travel agency salespeople, and such support is not easily replaced by Internet marketing. In the travel industry, marketing performance considers customer relationships valuable; consequently, Internet marketing is not suitable for travel product selling. In addition, customers are cautious about providing their credit card information on the Internet because the never-ending hackers and thus travel agency may consider give other paying methods as alternatives [11].

As previously discussed, Internet marketing by cloud computing handles two traditional marketing values – promotion and distribution – which used to belong solely to travel agency salespeople. However, the Internet can not technically replace the relationship between the consumer and the tour conductor. Nevertheless, in light of the rise in Internet usage for travel needs, how do travel agency salespeople view such a shift? What professional aspects are appropriate while facing the rising application of cloud computing? This study seeks to answer such questions.

3. METHODOLOGY

The participants (N = 10) were selected by purposive sampling of people who were managers or related experts in travel agencies. Purposive sampling is mainly used for opinion surveys. For this study, participants were required have been in the travel agent business for at least 5 years. Interviews were conducted via phone with ten participants, five from travel agents in Taiwan, five from the college teachers in tourism department.

The questionnaire is composed of two parts. First the questionnaire addresses demographics, including gender, age, professional position, marriage, number of kids, part-time job, and education. Second, the questionnaire addresses the characteristics of travel agency salespeople, using 10 items of responds to the rising application of cloud computing. The answers are constructed with the Likert scale. The interviews protocol was developed in English and based on the literature review. The interviews explored more fully the perceptions of the people of experience about the travel agent and cloud computing. Interviews were conducted in Chinese. The codes and supporting words emerging from the transcripts of interviews were translated into English for analyzing.

Grey Relational Analysis Methodology.

The grey system method, as developed by Deng [16], has been extensively applied in various fields, including decision science. In this study, the GRA is applied to construct an evaluation method for selecting the optimal location of a regional hospital in Taiwan to determine its effectiveness. The GRA is calculated as follows:

Let X_0 be the referential series with k entities (or criteria) of $X_1, X_2, \dots, X_i, \dots, X_N$ (or N measurement criteria). Then

$$X_0 = \{x_0(1), x_0(2), \dots, x_0(j), \dots, x_0(k)\},$$

$$X_1 = \{x_1(1), x_1(2), \dots, x_1(j), \dots, x_1(k)\},$$

⋮

$$\begin{aligned}
 X_i &= \{x_i(1), x_i(2), \dots, x_i(j), \dots, x_i(k)\}, \\
 &\vdots \\
 X_N &= \{x_N(1), x_N(2), \dots, x_N(j), \dots, x_N(k)\}.
 \end{aligned}$$

The grey relational coefficient between the compared series X_i and the referential series of X_0 at the j -th entity is defined as

$$\gamma_{0i}(j) = \frac{\Delta \min + \Delta \max}{\Delta_{0j}(j) + \Delta \max}, \tag{1}$$

where $\Delta_{0j}(j)$ denotes the absolute value of difference between X_0 and X_i at the j -th entity, that is

$$\Delta_{0j}(j) = |x_0(j) - x_i(j)|, \text{ and } \Delta \max = \max_i \max_j \Delta_{0j}(j), \Delta \min = \min_i \min_j \Delta_{0j}(j).$$

The grey relational grade (GRG) for a series of X_i can be expressed as

$$\Gamma_{0i} = \sum_{j=1}^K w_j \gamma_{0i}(j), \tag{2}$$

Where w_j represents the weight of j -th entity. If the weight does not need to be applied, take $w_j = \frac{1}{K}$ for averaging.

Before calculating the grey relation coefficients, the data series can be treated based on the following three kinds of situation and the linearity of data normalization to avoid distorting the normalized data. They are:

1. Upper-bound effectiveness measuring (i.e., larger-the-better)

$$x_i^*(j) = \frac{x_i(j) - \min_j x_i(j)}{\max_j x_i(j) - \min_j x_i(j)}, \tag{3}$$

where $\max_j x_i(j)$ is the maximum value of entity j and $\min_j x_i(j)$ is the minimum value of entity j .

2. Lower-bound effectiveness measuring (i.e., smaller-the-better)

$$x_i^*(j) = \frac{\max_j x_i(j) - x_i(j)}{\max_j x_i(j) - \min_j x_i(j)}, \tag{4}$$

$$\text{If } \min_j x_i(j) \leq x_{ob}(j) \leq \max_j x_i(j), \text{ then } x_i^*(j) = \frac{|x_i(j) - x_{ob}(j)|}{\max_j x_i(j) - \min_j x_i(j)}, \tag{5}$$

$$\text{If } \max_j x_i(j) \leq x_{ob}(j), \text{ then } x_i^*(j) = \frac{x_i(j) - \min_j x_i(j)}{x_{ob}(j) - \min_j x_i(j)}, \text{ or } \tag{6}$$

$$\text{If } x_{ob}(j) \leq \min_j x_i(j), \text{ then } x_i^*(j) = \frac{\max_j x_i(j) - x_i(j)}{\max_j x_i(j) - x_{ob}(j)}. \tag{7}$$

where $x_{ob}(j)$ is the objective value of entity j .

4. DATA ANALYSIS

Table 1. Questionair data of the reactions to cloud computing

Factors	Expert	1	2	3	4	5	6	7	8	9	10
I will prepare necessary documents when visiting potential customers		5	2	5	3	4	4	3	3	3	4
I will use e-mail or facebook to communicate with customers		4	5	3	4	3	5	4	5	5	4
E-commerce with cloud computing means new consumers		5	5	4	5	4	5	4	5	4	5
Traditional travel business is replaced by the Internet		2	1	2	1	2	2	3	1	1	2
Sales achievements higher with cloud computing		4	4	4	2	2	5	2	4	5	5
The client doubted my information when they asked for it		3	4	4	2	3	4	3	2	2	2
For salespeople like me, clients are diminishing		2	3	1	2	3	3	4	3	2	3
I will visit previous clients, even they do not need my services		4	3	3	4	3	4	4	4	5	4
I have had experiences of losing clients to Internet marketing		3	1	2	1	2	2	3	2	1	3
Because of Internet marketing, sales become more difficult		2	3	2	2	2	2	3	2	3	2

Calculation of $\Delta_{0j}(j)$ equals the difference between X_0 and X_i . The result is in table 2 ◦

Table 2. the calculation result of $\Delta_{0i}(j)$ of the reactions to cloud computing

	1	2	3	4	5	6	7	8	9	10
$\Delta_{01=}$	0.0000	3.0000	0.0000	2.0000	1.0000	1.0000	2.0000	2.0000	2.0000	1.0000
$\Delta_{02=}$	1.0000	0.0000	2.0000	1.0000	2.0000	0.0000	1.0000	0.0000	0.0000	1.0000
$\Delta_{03=}$	0.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
$\Delta_{04=}$	3.0000	4.0000	3.0000	4.0000	3.0000	3.0000	2.0000	4.0000	4.0000	3.0000
$\Delta_{05=}$	1.0000	1.0000	1.0000	3.0000	3.0000	0.0000	3.0000	1.0000	0.0000	0.0000
$\Delta_{06=}$	2.0000	1.0000	1.0000	3.0000	2.0000	1.0000	2.0000	3.0000	3.0000	3.0000
$\Delta_{07=}$	3.0000	2.0000	4.0000	3.0000	2.0000	2.0000	1.0000	2.0000	3.0000	2.0000
$\Delta_{08=}$	1.0000	2.0000	2.0000	1.0000	2.0000	1.0000	1.0000	1.0000	0.0000	1.0000
$\Delta_{09=}$	2.0000	4.0000	3.0000	4.0000	3.0000	3.0000	2.0000	3.0000	4.0000	2.0000
$\Delta_{010=}$	3.0000	2.0000	3.0000	3.0000	3.0000	3.0000	2.0000	3.0000	2.0000	3.0000

Employ an application with the linearity of data normalization to avoid distorting the normalized data ◦ The calculation result is in Table 3.

Table 3 The result of the linearity of data normalization

	1	2	3	4	5	6	7	8	9	10
$\gamma_{01=}$	1.0000	0.3333	1.0000	0.4286	0.6000	0.6000	0.4286	0.4286	0.4286	0.6000
$\gamma_{02=}$	0.6000	1.0000	0.4286	0.6000	0.4286	1.0000	0.6000	1.0000	1.0000	0.6000
$\gamma_{03=}$	1.0000	1.0000	0.6000	1.0000	0.6000	1.0000	0.6000	1.0000	0.6000	1.0000
$\gamma_{04=}$	0.3333	0.2727	0.3333	0.2727	0.3333	0.3333	0.4286	0.2727	0.2727	0.3333
$\gamma_{05=}$	0.6000	0.6000	0.6000	0.3333	0.3333	1.0000	0.3333	0.6000	1.0000	1.0000
$\gamma_{06=}$	0.4286	0.6000	0.6000	0.3333	0.4286	0.6000	0.4286	0.3333	0.3333	0.3333
$\gamma_{07=}$	0.3333	0.4286	0.2727	0.3333	0.4286	0.4286	0.6000	0.4286	0.3333	0.4286
$\gamma_{08=}$	0.6000	0.4286	0.4286	0.6000	0.4286	0.6000	0.6000	0.6000	1.0000	0.6000
$\gamma_{09=}$	0.4286	0.2727	0.3333	0.2727	0.3333	0.3333	0.4286	0.3333	0.2727	0.4286
$\gamma_{010=}$	0.3333	0.4286	0.3333	0.3333	0.3333	0.3333	0.4286	0.3333	0.4286	0.3333

After calculation, the main impact factors of cloud computing were decided. The result is in Table 4.

Table 4. Grey relational grade (GRG) of the reactions to cloud computing

γ_{oi}	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
	0.5848	0.7257	0.8400	0.3186	0.6400
	FACTOR6	FACTOR7	FACTOR8	FACTOR9	FACTOR10
	0.4419	0.4016	0.5886	0.3437	0.3619

According to γ_{oi} , the priority of the main impact factors of cloud computing is listed as the follows:

FACTOR3 > FACTOR2 > FACTOR5 > FACTOR8 > FACTOR1 > FACTOR6 > FACTOR7 > FACTOR10
> FACTOR9 > FACTOR4

5. CONCLUSION

With the process of Grey relational grade, the top three appropriate reactions selected by the interviewers were “E-commerce with cloud computing means new consumers” , “I will use e-mail or facebook to communicate with customers” , and “Sales achievements higher with cloud computing” . Since the development of cloud computing for travel agency is inevitable, a positive attitude is even more important. This means that a travel agency salesperson with higher work devotion, and higher new technology acceptance and prospect that one will decide the values which guide him in the varying working environment.

However, the top three disagreed reactions selected were “Traditional travel business is replaced by the Internet” , “I have had experiences of losing clients to Internet marketing” , “Because of Internet marketing, sales become more difficult” . The interviewers believe that the lack of faith can manifest a salesperson as irritation, frustration and exasperation. It is a sign that a salesperson is not looking at the job with faith that he must be fearful to indulge in disappointment and failure.

Therefore, if a salesperson has confidence in the Internet marketing with cloud computing prospect, ways in which to take the advantage of new technology will be a solution to overcome in the changing environment. High work devotion improved the communication with clients with whom the salesmen created close relationships, and they think those relationships are not replaceable. Those with work frustration face the inevitable task of improving their selling skills to overcome the drop in clientele due to the rise in Internet marketing with cloud computing.

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