THE DYNAMICS OF SEARCH ENGINE MARKETING FOR TOURIST DESTINATIONS

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Abstract

Search engine marketing (SEM) has become an important strategic tool for destinations and tourism organizations to promote and advertise online. Due to the dynamic and constantly evolving relationships among travelers as information searchers, search engines, and the online tourism domain, the authors argued that a new model must be conceived to capture these relationships in order to better inform SEM practices. The goals of this paper are two-fold: 1) to synthesize research related to search engine marketing in tourism and related fields; and, 2) to present a model that describes the evolving dynamics in search engine marketing. The implications of the model for managerial practice and tourism research are discussed.
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Introduction

The Internet has redefined the tourism industry in a number of ways (Werthner and Klein 1999). On the demand side, most travelers rely on the Internet to look for information as part of the trip planning effort (TIA 2005, 2008); on the supply side, tourism businesses and organizations have adopted the Internet as one of the primary communication channels for gaining and retaining visitors (Buhalis and Law 2008; Gretzel and Fesenmaier 2000). Search engines have thus become one of the most valuable means for connecting travelers and tourism businesses (Xiang, Wöber, and Fesenmaier 2008). A report by the Travel Industry Association of America indicates that the majority of U.S. travelers use search engines for vacation planning (TIA 2008). Additionally, a study by the Internet research firm Hitwise indicates that the generation of online traffic to hospitality websites has led to a substantial number of bookings (Prescott 2006; Hopkins 2008). For Search Engine Marketing (SEM) in general, advertisers in North America spent US$9.4 billion on search engines in 2006, which represents a 62% increase from their spending in 2005 and a 750% of increase from 2002 (Elliott 2007). Apparently, SEM has emerged as one of the most important strategic tools within the overall Internet marketing effort for tourism destinations in the United States.

Search engines not only provide numerous opportunities for tourism destinations and businesses to engage their potential visitors, but also pose many challenges. In SEM, one of the primary objectives for a business is to improve and maintain its ranking as high as possible on Search Engine Result Pages (SERPs). As such, a constant struggle exists between tourism businesses
and organizations as they compete among themselves and many other information sources for
the attention of online consumers who are sifting through the enormous amount of information
available online. On the other hand, search engines are modifying and enhancing their algorithms
and changing the criteria by which web pages are ranked, in order to fight against search engine
abuse and spamming and to provide the most relevant information to users (Lawrence and Giles
1998). Further, travelers are conducting searches with various queries in order to find most
relevant information, based on their background knowledge about travel, the destination, and the
search engines themselves (Pan and Fesenmaier 2006). Therefore, the interactions and
relationships between these “players” in online travel information search are extremely dynamic,
making SEM a moving target.

SEM is a relatively new phenomenon; with a few exceptions, research on SEM is limited in both
marketing and tourism literature (Pan, Litvin, and O’Donnell 2007; Xiang, Gretzel, and
Fesenmaier 2009; Xiang, Wöber, and Fesenmaier 2008; Sen 2005; Beckwith 2003; Moran and
Hunt 2005; Ho and Liu 2005). Existing studies on search engines are mostly conducted within
the computer science and information science fields, which primarily focus on the technical
mechanism of search engines as information retrieval systems. The implications of these studies
on marketing practices are unclear, especially in the tourism field. Perhaps more importantly, the
dynamics in online search have not been well documented, let alone incorporated into SEM
practices. A series of important questions remain unanswered, including: How can a destination
compete with other similar businesses knowing that they will probably adopt similar online
marketing strategies? How does a destination marketing organization (DMO) compete given that
search engines are constantly changing their algorithms? On the other hand, online travelers
might adapt their behaviors based on the evolving search engines and available information online. Thus, it is argued that the development of successful SEM programs for tourism destinations requires a profound understanding of the dynamics among the parties involved in SEM.

The goals of this paper are to synthesize the literature related to both SEM in general and for tourism in specific and, ultimately, to propose a conceptual model that delineates and highlights the dialectics in SEM. This model is intended to provide directions for future research as well as to offer basic principles for dynamic SEM. The paper is organized as follows: the next section, Research Background, critically reviews the literature related to the three key “actors” in SEM, namely search engines in terms of their basic design and functions, online travelers as search engine users, and the online tourism domain. In the third section, a conceptual model is proposed to describe and highlight the dynamic relationships among user behavior, search engines, and the online tourism domain. Finally, the implications for theory and practice are discussed.
Research Background

Search engines came into existence to support the access to the huge amount of information on the Internet by crawling, indexing, retrieving, and representing relevant information for users based upon computer algorithms (Henzinger 2007; Marchionini 1997). In travel and tourism, search engines have become one of the important sources in consumers’ use of the Internet to access travel products (TIA 2008). Generally, Search Engine Marketing (SEM) is defined as a form of marketing on the Internet that businesses and organizations seek to gain visibility on SERPs through paid or non-paid means (Moran and Hunt 2005). There are many forms of SEM, from paid inclusion to organic optimization (see Table 1). The three major forms are: 1) organic search based techniques, i.e. search engine optimization, which involves employing methods that help improve the ranking of a website when a user types in relevant keywords in a search engine. These include creating an efficient website structure, providing appropriate web content, and managing inbound and outbound links to other sites; 2) paid inclusion, which means paying search engine companies for inclusion of the site in their organic listings; 3) search engine advertising, or paid placement, which implies buying display positions at the paid listing area of a search engine or its content network. Google AdWords and Yahoo! Precision Match are the two most popular programs currently, wherein paid placement listings are shown as “Sponsored Links”.

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<th>Table 1. Forms of SEM</th>
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The phenomenon of searching on the Internet has attracted numerous studies in computer science, information sciences, and human computer interaction with the focus on the technological aspects as well as user behaviors of searching (Brin and Page 1998; Jansen and Spink 2006;
Jansen and Molina 2006). A considerable amount of studies have also appeared in the travel and
tourism area with the aim to understand the use of search engines as well as its implications for
marketing and management for destinations. It has been argued that understanding the
implications of using search engines for tourism marketing must be placed within the context of
travel planning (Xiang, Wöber, and Fesenmaier 2008). Basically, the existing literature related to
SEM can be summarized as consisting of three sub-topical areas, including: 1) search engines,
defined as the online tools which algorithmically index, organize, and retrieve relevant web
documents and, according to user queries, present those documents in a list format (Gendler et al.
2005; Sen 2005); 2) travel information searchers, defined as those travelers who are planning
trips or gathering travel-related information on the Web (Pan and Fesenmaier 2006); and, 3) the
online tourism domain, defined as the collection of links, domain names, and web pages that that
contain texts, images, and audio/video files related to travel and tourism (Xiang, Wöber, and
Fesenmaier 2008). The following sections provided a review of existing research describing each
of these components with the goal to provide a foundation for understanding the field of SEM.

Search Engines

Metaphorically, search engines can be thought of as the “Hubble Telescope of the Internet” in
that they enable travelers to gain access to billions of web pages that comprise the online tourism
domain (Xiang, Gretzel, and Fesenmaier 2009). Search engines take user queries, retrieve
related documents found in the searchable indexes created by the indexer, produce snippets with
web address, a short description, similar pages, and cache, and display them in a ranked order on
the SERP (see Figure 1). The major part of search engine interface is used to display those
results based on the internal ranking, which is termed Organic Listing. In addition, major search
ingines, such as Google, display paid advertisements on the top and right side of major result
pages, ranked by businesses' bidding price on clicks and the quality of pages, which is termed Paid Listing. The paid listings could also appear blended with organic listings for certain search engines, such as Baidu.com (the most popular search engine in mainland China) and Yahoo.com. However, the two companies separated the two types of results recently under pressure from the general public and the users (Back 2009; Schwartz 2009).

Figure 1. Google Search Engine Results Page: Keywords “new york hotels”

In 2008, Google was used for 63% of online searches, followed by Yahoo! and MSN (later rebranded as Live Search and currently as Bing.com) (Levene 2006). Among the components of search engines, the algorithm a search engine uses to rank web pages in organic listings is most important in determining which web pages and in what order to display. The rank of a web page for certain queries on the most popular search engines determines their online visibility to a large extent (Pan et al. 2007). Given a query, almost all search engines use the actual characteristics of web pages to rank the web pages (Levene 2006). The ranking of one web page is mainly determined by: 1) whether or not those keywords are in the Universal Resource Locator (URL) of that page; 2) the frequency and font size of those keywords on a web page; 3) the keywords in the link anchor text. Link anchor texts are those pieces of text which contain a link. Usually web authors embed meaningful anchor links to provide context to the user of the content on the linked pages. Search engines view link anchors as good summaries of linked pages. 4) alternative text for images, which is the text associated with images; and 5) meta-tags: keywords in Titles and Descriptions embedded on a given web page (Cai, Feng, and Breiter 2004). Later search engines further incorporate the link structure of the web to determine the importance of web pages (Brin and Page 1998). A web page with many inbound links will be considered more valuable and
important and, thus, having a higher importance compared to the ones with fewer inbound links.

In addition, search engines used an iterative process to determine the quality of links (PageRank value, as described in Brin and Page 1998) (Levene 2006; Langville and Meyer 2006). In addition, other criteria affecting the ranking include age of the site and the frequency of updating (Malaga 2007; Sullivan 2007), page loading time, and the numbers of clicks on a result on SERPs (Fish 2009).

In general, search engines have been created to address the problem of the huge amount of online information. Link structures, web page content, frequency of updating, the loading time, and the implicit feedback from users are all determining factors in the ranking of search results. However, indexing, ranking, and representing the enormous amount of information on the Internet are a huge challenge for search engines. While the most popular search engine, Google, currently claims to index more than one trillion web pages (Google 2008), the entire information space on the Internet can only be covered in small parts by a single search engine (Levene 2006). Those “deep” web pages, such as those buried in the databases and dynamic pages, are not indexable by search engines and are thus inaccessible to users who query a search engine (Bergman 2001; Lawrence and Giles 1999).

**Travel Information Searchers**

While travelers may use search engines at different stages of their trip, a majority of them find search engines particularly helpful in serving their trip planning purposes (TIA 2008). Studies have shown that the process of using a search engine consists of two major cognitive steps: 1) query formulation: the user enters a query into the search engine interface. Three factors determine query formulation, including the user’s understanding of how the search engine works,
his/her knowledge of the domain, as well as the search task itself (Levene 2006); 2) user evaluation: after reading the snippets generated from a search engine, the user navigates back and forth between the search engine interface and the following web pages linked to those results. Among these topics of interest, search queries have been extensively studied in fields such as information sciences as well as travel and tourism (Jansen and Pooch 2001; Jansen and Spink 2005b; Jansen, Spink, and Saracevic 2000; Pan, Litvin, and Goldman 2006; Pan, Litvin, and O’Donnell 2007; Xiang and Pan 2009).

Search queries are short strings of words or terms that reflect a user’s goals, information needs, search intent, as well as his/her search strategies. Studies in information science, consumer behavior, and tourism have explored this search engine use behavior, with the focus on the characteristics of search engine queries such as the length and depth of search, types of search, and changes of search characteristics over time. For example, a typical web search session is around 15 minutes; around 47% of users only search once during a session; around 20% to 29% of queries only contain one term; around 11-20% of user queries contained logical operators such as “and” or “or” in the United States; users only view few result pages, mostly the first page (73% of users) (Jansen and Spink 2005a; Jansen, Spink, and Saracevic 2000).

Search queries reflect users’ goals including (Jansen and Molina 2006): 1) navigational goals. These users are looking for a specific web page, for example, a search for the home page of a hotel; 2) informational goals. These users are trying to obtain a piece of information, for example, finding out the location of Disney World in Florida; and, 3) transactional goals. These users focus on carrying out certain action, for example, purchasing an airline tickets or
downloading a coupon for a restaurant. Recently, Jansen et al (2008) found that users’ queries in general are largely informational (81%), followed by navigational (10%) and transactional (9%).

In travel and tourism, studies indicate that users’ questions tend to be short, usually consisting of less than four keywords. Most users also do not go beyond those results on the second page. As a result, only a relatively small number of results are visible to the user though millions of potential web pages were found (Xiang, Wöber, and Fesenmaier 2008). Pan et al.’s (2007) study also indicated that searchers usually focus on cities as geographical boundaries instead of states or countries. For example, a search for a city combined with a specific hotel or a hotel brand is one of most common queries when travelers perform accommodation-related searches. Travelers often combine their searches for accommodations with other aspects of the trip, including dining, attractions, destinations, or transportation. A sequential analysis also revealed that many users engage in a switching behavior that swings between broad and focused research tact. In addition, that study also demonstrated strong associations between place names, particularly city names, with ‘specific hotel’ and ‘hotel brand’.

On the other hand, Xiang et al. (2009) analyzed user queries pertaining to a specific tourist destination (i.e., Chicago). Based upon a series of analyses of user queries from search engine transaction files, their study demonstrated that the majority of travel queries are short expressions of travelers’ information needs about different aspects of traveling to a place. Overall, there are relatively few distinct vocabularies in user queries that represent the majority of tourism related “things” (e.g., “Chicago hotel” and “Chicago attractions”). However, there is also a “long tail” of words that represent users’ heterogeneous information needs and their own mental images of the
tourism experience, which reflects the idiosyncratic nature of places.

Researchers also studied users’ interaction with the search engine interface. The interface of search engines and the rank of web pages influence the click behavior significantly. For example, the majority of search engine users do not look beyond the first three pages of search results (Henzinger 2007). Studies have shown that users have more trust in organic listings, and organic listings have a higher conversion rate (MarketingSherpa 2005; Jansen and Resnick 2005). Pan et al. (2007) indicate that the order of search results presented by Google dramatically affects selection of the respective link; specifically, the subjects were significantly more likely to select the first and second suggested links than other links on a SERP. Out of the remaining eight results on a Google SERP, the links presented 8th – 10th were more likely to be chosen, and those 6th – 7th links were least likely to be chosen, due to scrolling effects. Kim and Fesenmaier (2008) suggest that the use of search engines has a significant effect on first impression formation, and consequently on the overall evaluation of the website of a tourism business. Travelers’ use of search engine for travel planning purposes involves a number of mental and cognitive activities. Kim and Fesenmaier (2008) conceptualized the interaction between an online traveler and a search engine as a three-step process. From a marketing perspective, tourism businesses can influence and persuade online travelers during this process.

In general, research findings in searchers’ behavior have revealed those factors which influence a traveler’s generation of keywords, and evaluation and selection of a specific search result when exposed to a SERP. Travelers search for various aspects of tourism products, but more likely focus on the level of cities and/or hotels; there are long tail characteristics of search keywords;
search engines create the first impression of information searchers, and it is the first step toward the conversion process. Also, search queries truly reflect the dynamics in online travel information search (Xiang, Gretzel, and Fesenmaier 2009; Xiang and Pan 2009). In addition, the ranking of a specific search result link and its relevancy to the search query have been recognized as the most important factors influencing click behavior. How search queries evolve over time, due to users’ inherent adaptation to search technologies, is another important question for SEM in tourism. Given the dynamic nature of search behavior, it is thus crucial for marketers to understand how the behavioral aspects of travel information search evolve over time.

The Online Tourism Domain

Recently, a series of studies have been conducted in tourism with the goal to understand the nature of the online tourism domain and the use of search engines by travelers in their trip planning context (Pan, Litvin, and Goldman 2006; Xiang et al. 2007; Xiang and Pan 2009). A domain can be defined as a collection of all informational entities about a specific subject (Wöber 2006; Pan and Fesenmaier 2006; Xiang, Wöber, and Fesenmaier 2008). In the context of the Internet, a domain is the collection of links, domain names, and Web pages that contain texts, images, and audio/video files stored in hypertext formats. Therefore, the online tourism domain comprised all such information entities that are related to travel. Werthner and Klein (1999) proposed a conceptual framework to delineate the interaction between the consumer and the industry suppliers with the Internet playing a facilitating and mediating role. From an information search perspective, Pan and Fesenmaier (2006) used the term “online tourism information space” to describe the collection of hypertextual content available for travel information searchers. With the increasing importance for the use of the Internet for travel purposes, more attention has been directed to the analysis of the tourism domain, with an
emphasis on the mediating role of specific Internet technologies (e.g., search engines) in representing tourism within a travel planning setting.

Xiang, Wöber, and Fesenmaier (2008) conceptualized the online tourism domain based upon an integration of a number of theoretical perspectives in tourism studies, including: 1) the industry perspective with the focus on the aggregation of the supply of tourism on the Internet (Leiper 1979; Smith 1994; Leiper 2008); 2) the symbolic representation perspective describing the representation of tourism products and related experiences provided by the industry in various forms (Leiper 1990; Cohen and Cooper 1986; Dann 1997); 3) the travel behavior perspective including the activities and the supporting systems at different stages of the travel experience (Woodside and Dubelaar 2002; Pearce 1982; Crompton 1992); and, 4) the travel information search perspective emphasizing the information sought to support travel experiences (e.g., Fodness and Murray 1998; Vogt and Fesenmaier 1998; Gursoy and McLeary 2004).

Wöber (2006) examined one aspect of the tourism domain, i.e., the visibility of tourism enterprises, particularly destination marketing organizations and individual hotel operations in Europe, on six popular search engines. His findings showed that many tourism websites suffer from very low rankings, which makes it extremely difficult for online travelers to directly access individual tourism websites. Xiang et al.’s (2008) analysis of the domain showed that the representation of tourism through one of the most important interfaces, i.e., a search engine, is extremely rich, reflecting the idiosyncratic nature of destinations and travelers’ heterogeneous information needs. In addition, their study demonstrated that popular search engines largely shape the representation of the domain and, thus, create potential problems for online travelers.
and tourism suppliers.

The online tourism domain was traditionally seen as primarily comprised by the so-called “tourism industries”. However, with the growth of consumer/user generated content, travelers are playing an increasingly important role as information providers on the Internet. A recent study conducted by Xiang and Gretzel (forthcoming) investigated the extent to which social media appears in search engine results in the context of travel-related searches. Social media constitutes a substantial part of the search results, indicating that search engines likely direct travelers to social media sites. Their study confirms the growing importance of social media in online tourism and potential impact on travelers’ access to travel related information. The online tourism domain contains information not only from the traditional supply side of tourism products, but more and more from the conversations between consumers and travelers, over which businesses have little control.

In general, an online tourism domain consists of a collection of links, domain names, and Web pages that contain texts, images, and audio/video files stored in hypertext formats regarding travel. Studies show that DMOs have limited presence; and there is growing importance of the conversation between consumers-to-consumers, so-called social media content. Search engines have limitations in their ability to represent a complex domain like tourism (Xiang, Wöber, and Fesenmaier 2008; Gretzel and Fesenmaier 2002). The information available on search engines is a reflection of their technical structure and algorithms.

**Research Rationale**

The existing literature on the use of search engines for general purposes as well as for travel
planning constitutes a rich stream of research. However, past studies are limited due to a number of reasons. First, this area of research is relatively new and, particularly, research on search engines often stems from the computer/information science fields and does not directly address the needs of businesses from the marketing or advertising perspective. Second, past research has primarily focused on each of the components of search engine use in an isolated fashion. That is, most of the existing studies often examined either the search engine, or the users, or the underlying domain of interest, without connecting to other components. As such, a comprehensive picture, which simultaneously describes the three components in travelers’ use of search engine for travel planning, is missing. Third, perhaps most importantly, there is a lack of understanding of the dynamic relationships among these components, i.e., how any one of these components would respond to changes in any other components remains unaddressed. Further, many existing studies on SEM are conducted by consulting companies such as eMarketers and PhocusWright. Though applicable to the tourism industry and up-to-date, these studies are empirically data-driven, and lack conceptual foundation and academic rigor. Apparently, some crucial questions remain unanswered, for example, for a DMO, what keywords should they bid on given other competing destinations will do the same? How should they change their strategies based on seasonality? More studies that focus on the dynamic and co-evolving relationship for online tourism are likely to generate insights that will further the understanding of the relationships and thus provide marketing and design guidance.

The Search Triad Model and Dynamic Relationships in SEM
Several models have been proposed in the past to describe the interactions between the “triad” of search, namely travel information users, search engines, and the online tourism domain (Kim and
Fesenmaier 2008; Pan and Fesenmaier 2006; Werthner and Klein 1999; Xiang, Wöber, and Fesenmaier 2008). However, those models focus on interaction sessions, in which the arrows of interaction point to one direction: users, through the Internet or search engine interfaces, access the tourism information online. As a result, the influences are also one-directional. It is argued that the three components constitute a system in which they all influence each other continuously in both directions. Therefore, the goal of this section is to present a conceptual model that delineates and highlights the interrelatedness and interdependency among these components.

The “search triad” as shown in Figure 2 can be used to describe the interactions among the three parties that may have different goals, objectives, expectations, as well as their specific behaviors. They form a dialectic structure in which each actor’s behavior is determined by the strategies and behavior of others and their behavior will potentially change the strategies of others. This dynamics will lead to changes of the structure and balance of the system (Giddens 1976). As such, each of the three parties plays a different role within the Internet landscape, which, in turn, defines their and other players’ strategies and behaviors. Specifically: 1) from search engines’ standpoint, their role is to provide relevant information to users based on a given query in order to gain and retain loyal users to their businesses. They must continue to modify the algorithms and interfaces based on a better understanding of users’ search behavior and online tourism information. They need to continuously explore ways to attract businesses to market with them, at the same time, combat the battle with businesses that misuse SEO and paid listings; 2) from the information searchers’ perspective, travelers seek to find the most relevant information in order to plan their trips and as such, their search behavior is affected by their understanding, learning, and overall trust toward search engines, knowledge of online tourism domain, image of
the destination, and the goals for their trip planning activities. These elements comprise their semantic mental modeling when searching for information. Their semantic structure and mental models further determines the queries they will generate (Pan and Fesenmaier 2006). In addition, this search behavior adapts to changing search engine algorithms and related technologies, the representation of relevant (and, perhaps, non-relevant) search results, and increasing amount of travel information. They need to generate keywords and evaluate SERPs; at the same time, they need to be aware that the specific algorithms used by different search engines will determine the visible information space and potentially have certain limitations and biases; and, 3) tourism businesses and organizations also have adapted to the changes brought about by both evolving technology and travelers as they seek to gain visibility on search engines. In general, they must adopt a series of search engine practices as part of their strategy to gain a competitive advantage online. Ideally, they should design useful and informative web sites, strive for high search engine visibility while staying away from overuse and misuse of those techniques which may harm their SEM efforts. Various studies have demonstrated this dynamic and co-evolving relationship. The following paragraphs detail some of the evidence.

Figure 2. The Triad Model for SEM

With increasingly abundant information on the Web and better search engines algorithms, users are adapting to updated search engines with changing behavior. For example, from 1997 to 2001, an analysis on search engine transaction logs from Excite showed that there were significant decreases in the percentages of searches on topics such as entertainment and pornography, and significant increase in searches for commerce and people (Spink, et al. 2002). Another study (Jansen and Spink 2006) analyzed nine transaction log datasets from various search engines;
their results showed that recent search engine users used simpler queries and viewed fewer result pages, compared to the past. They explain this phenomenon by search engines’ algorithmic enhancements. A similar study (Malaga 2007) analyzed AltaVista search engine logs from 1998 to 2002, and showed that recent users spent more time in one search session, typed in more keywords in a query, viewed more result pages, and had broader search topics in 2002. The differences might be due to the different search engines analyzed. These studies indicated that users are changing their search behavior in relation to available information on the Web and the different and enhanced search algorithms.

From the information provider’s perspective, businesses and organizations have been taking advantage of the knowledge of ranking algorithms and trying to reach to the top on SERPs. They are in the form of either legitimate format of SEM, which is endorsed by major search engines, or more malevolent types of search engine spamming or Google bombing (Bar-Ilan 1999). On one hand, industry cases have shown the successful use of SEM practices, such as Vancouver Coast and Mountains (www.vcmbc.com). After an SEO campaign, the DMO site now has around 84% of web traffic coming from search engines, in which Google is the top traffic source with 22,000 visitors per month (Brusha 2009). Twiddy, a vacation home rentals business, has increased their online booking by 50% through paid advertising on Google and transformed their business (Google 2007b). On the other hand, knowledgeable information providers, including common users and businesses, have tried to adopt certain practices which might not be legitimate in the view of search engines. Link farms, link spamming, and Google bombs are examples of using one’s knowledge of search algorithms for own advantage, which are against search engine
use policies (Chaffey 2009). Google bombing is a collective behavior by Internet users to change
the positions of their web pages on Google by malicious hyperlinking (Sen 2005). For example,
the home page of George W. Bush, former President of the United States, used to be the top
Google result for the query “miserable failure” due to the collective behavior of a number of left-
wing bloggers when they hyperlinked his homepage with those keywords as text anchors (Bar-
Ilan 2007). In addition, one common mistake businesses and organizations make relates to
keyword stuffing, which is placing too many keywords in the tags (Bar-Ilan 2004). In addition,
the emerging Web 2.0 places a more and more important role on social media sites since they
will appear in top positions in search engines (Xiang and Gretzel forthcoming). This significantly
lowered the control of traditional information providers such as the websites of tourism
businesses and organizations. Managing and taking advantages of those third-party information
and voices will become more important as a research topic. Also this space on ranking is
changing almost daily. Holding the top position today does not mean holding the top position
tomorrow. Figure 3 shows a daily tracking of the top 5 websites for two queries, “charleston sc”
and “travel charleston” on Google for one month (Pan, et. al. 2010).

Figure 3. The Dynamic Changes of Top Five Websites for Two Queries on Google in One Month

The search engine industry is also evolving and becoming more sophisticated (Berners-Lee and
Fischetti 2000). Search engines need to adapt to the changing online information domain, as well
as changing user behavior, in order to stay neutral and provide the best experience to the users.
Firstly, the online information domain (the Web) is always a distributed, dynamic, and
ephemeral space where new pages are added, and old pages are removed and updated every day
(Bar-Ilan 2007). As a result, search engine algorithms change almost on a daily basis (Rousseau
1999). For example, one study used six popular search engines in 1999 to query and tracked the
returned result pages. It showed certain existing web pages may appear or disappear from search
genes without any apparent reasons (Tatum 2005). Another study has also shown that the
results from AltaVista fluctuated greatly in 21 weeks without any major changes on the actual
web pages (Bar-Ilan 2007). Bar-Ilan (2004) contributed these changes to many elements,
including different search engine servers, frequency of updating their algorithms, and frequency
of updating the web index by search engine crawlers. Secondly, in order to retain customer
loyalty, search engines need to account for the ways businesses may try to cheat the system and
find ways to combat these issues, ultimately providing users with a more relevant and unbiased
ranking of results. Search engine companies, such as Google, responded to the misuse of their
search tools by tweaking their algorithms. As a result, many search engine “bombs” stopped
working while others are still in existence (eMarketer 2007; Tatum 2005). When search engines
detected keyword spamming or keyword stuffing (Bar-Ilan 2004), they decreased the weight
applied to each keyword. These battles highlight the need for search engines to find alternative
ways to validate web pages so that those businesses cannot bias search results (Sen 2005). In
addition, the question whether or not a business could bid on competitor’s trademarked brand
names is still an ongoing debate (Thurow 2003). Thirdly, when facing more and more
sophisticated users, search engines such as Google have altered their interfaces, such as
introducing Universal Search (blending images, blogs, videos and other formats of results
together in SERP) and search filters, which allow users to slice and dice results in various ways
according to their requests (Google 2007a, 2009).
In general, dynamic and co-evolving relationships exist among travel information searchers, tourism businesses, and search engines, as three actors in the search system. However, search engines are only the technology which facilitates and mediates the connection between travelers and tourism businesses; travel information searchers as users, are the central actor. Thus, discovering information needs of travelers and the way they express those needs in queries, and representing the tourism products honestly online and building the trust with users will be the unchanging communication philosophy for DMOs and other tourism businesses (Urban, Sultan, and Qualls 2000). This philosophy should be the guiding principle to survive in the dynamic and evolving search engine world.

**Implications**

With the increasing importance of search in travelers’ access to information, tourist destinations and businesses must find better ways to adapt to the fast-pace change in the environment. SEM comes to the fore to serve this purpose. However, a successful SEM program requires a profound understanding of the dynamics of SEM in tourism. This paper synthesizes and critically reviews existing literature on travelers’ use of search engines for travel related purposes and proposes a conceptual model to describe the dynamic relationships among travel information searchers, search engines, and the online tourism domain. This paper fills the gap by identifying the need for better understanding the conditions for SEM and, therefore, offers important implications for marketing strategies and theory construction in the new era of online tourism marketing.
**Managerial Implications**

The dynamic nature of searching on the Internet has important implications for SEM practices in tourism. As shown in the model, the three parties in the search triad all have different goals and perspectives: they may compete and cooperate with each other at the same time, and they are all trying to understand and second-guess what the other two are doing. This system perspective requires tourism businesses and DMOs to adopt new ways of thinking to take advantage of this information environment. Certain rules also stay unchanged: the understanding of travelers’ needs, the way they express those needs in queries, and honestly representing one’s products and making the connections with travelers’ needs. Based upon this understanding, six principles are thus considered essential for a destination marketing organization to develop competitive strategies in the dynamic space of SEM: Understanding User Queries, Strategic Design, Head Targeting, Tail Targeting, Anticipating, and Monitoring.

*Understanding User Queries:* it is not enough to merely study and understand the information needs of potential customers; one also needs to understand how travelers translate those needs into queries (tokenization) (Jiang and Zhai 2007). More importantly, those queries will vary depending on many factors: the individual’s knowledge and experience, decision making stages, Internet use experience, etc. With a good understanding of those queries, marketers could link those queries with the tourist their product offerings, or even alter or design their products.

*Strategic Design:* Search results are the “first contact” with a potential visitor, and are advertisements that should be designed such that they fit within the strategic communication goals of the tourism organization (Kim and Fesenmaier 2008). For example, the snippets generated from the actual site on search engines will influence how searchers view the following
site and build their first impressions. Those snippets should be carefully picked and fit within the DMO and tourism businesses’ strategic communication goals. The way search engines choose to pick snippets from a site could vary based on different search engines and during different time periods; carefully monitoring those changes is thus crucial in order to stay in control.

*Head Targeting:* as shown by previous studies, the keywords users type in to search for a destination follows a long tail shape (Xiang, Gretzel, and Fesenmaier 2009): a few keywords have tremendous search volumes while a large amount of niche keywords were searched infrequently. For popular keywords in the “head” of the distribution curve, such as the word “hotels” or the name of a destination, the cost for both organic results and paid listings will be very high. Thus, DMOs should focus on complementing and/or strengthening the range of opportunities within the destination. For example, in most American cities, “hotels” is the most frequently used tourism-related search keyword associated with a destination (Pan, Litvin, and O’Donnell 2007); many top results for those queries are from major online travel agencies or online review sites such as expedia.com, hotels.com, or tripadvisor.com (Xiang and Gretzel forthcoming); many searches for a destination will also have a Wikipedia entry for that destination as one of the top results. A DMO does not necessarily directly compete with those different channels of information, which may provide additional information for visitors to its own destination. Thus, a sensible approach is to provide additional resources beyond hotel reservations including opportunities to visit local attractions, alternative routes to the city, and etc.

*Tail Targeting:* On the other hand, DMOs need to be flexible in targeting the long tail space (Anderson 2006). Those niche keywords in the long tail offers substantial opportunity for tourism organizations to more effectively market to their target customer community. The Long
Tail is represented by those niche geographic keywords more specific to a certain destination (such as “DuPont Circle Washington D.C.”) (Lew 2008), or seasonal keywords (such as “Cherry Blossom Washington D.C.” in the spring). DMOs have better opportunity to gain premier positions in results for those keywords given their limited resources and huge competition from the accommodation sector.

*Anticipating:* Given the dynamic relationships, it is essential to anticipate similar approaches which might be adopted by competitors. Those competitors are likely to bid on relevant keywords and adopt link campaigns targeting same organizations and bloggers. As such, tourism businesses need to differentiate themselves by adopting diverse SEM tactics or targeting different keywords. One should avoid those keywords the dominating competitors in the marketplace will target and thus avoid a heads-on rivalry. In addition, one needs to adopt not only SEO to increase visibility in organic listings, but also paid listings. A study conducted by Sen (2005) has shown that when everyone is adopting search engine optimization on the same keywords, paid listings will give the businesses a competitive advantage.

*Monitoring:* SEM strategies should continue to change as competitors adopt similar strategies and search engines evolve. It is essential for DMOs to keep track of this search triad: changing landscape and algorithms of search engines, the changing competitors on various tourism domains, and the changing travelers’ behavior. Monitoring systems should be adopted to track the sudden changes in the ranking of the site, the changes in search volumes, and the sudden drop or increase of conversion rates. Thus, SEM is a continuous effort after the initial SEO and paid listing campaign. The tools for monitoring the rankings and tracking website performance include analytics tools such as Google Analytics and Google AdWords. With these tools, every
user who clicked on a paid listing or website can be tracked and the DMOs or businesses could precisely monitor Return on Investment (ROI). Accurate data can reveal where visitors are visiting on a site, which provides a wealth of information about businesses’ web pages and online advertising. In addition, tourism businesses need to better monitor those information sources from third-party and Web 2.0 websites such as TripAdvisor and take advantage of them. Those websites will appear in search engines and seem more trustworthy than traditional websites from those businesses.

**Implications for Research and Development**

First, online marketing has been a focus of research since the Internet became an important information source for travel purposes (Buhalis and Law 2008; Werthner and Klein 1999; Werthner and Ricci 2004; Gretzel and Fesenmaier 2000; Wang and Fesenmaier 2003; Wang and Fesenmaier 2006). Many of the studies have focused upon the design and development of website functions that can better engage and persuade online travelers. As argued by Kim and Fesenmaier (2008), online promotion for destinations has gradually expanded from the early age of functionality and usability to the recent emphasis on access and persuasion. Online marketing for destinations faces a challenging task that includes a variety of goals for attracting, engaging, educating, entertaining, as well as converting travel information users. The increasing importance of searching gives rise to the need for fresh thinking: the “battleground” for online marketing has shifted from improving the usability of a website toward utilizing search engines to attract and influence online travelers through third-party sites. This requires an embrace of a new set of notions including the social media for travel, the so-called Web 2.0, as well as the
“search economy” and the “link economy”. These trends demand a shift of marketing paradigm from delivering messages to influencing conversation, including the conversation between consumers and also business partners and stakeholders. More studies are crucial in exploring the third-party information sources created by the consumers and other information resources.

Second, the conception of the dynamic relationships in search indicates that one needs to develop the metrics used to evaluate effectiveness of the SEM programs. For example, new measures must be established to help businesses with goal setting in the planning process. For instance, how should one define and measure the competitive space for a destination in the search context? How should one measure the effectiveness of a tourism organization or business on search engines? The metrics should include search volume for certain keywords, the ranking of a site or page on those keywords, and the conversion rates. The benchmarking metrics might be different from one business to another, depending on the goals and strategies of the DMO or businesses. For example, if transaction is one of the goals, the revenue generated from those clicks from search engines will be one metric; if the goal is forwarding clicks to the web pages of other local tourism businesses, the outbound links should be monitored and reported frequently.

In addition, the performance of the businesses, the performance of competing visible information, and changes on the search engine algorithms should be monitored, tracked, and studied continuously. Since user behavior, information on the web, and search engine algorithms change constantly, the online experiment at one time (Susman and Everd 1978) might not hold or be relevant over a longer time period (Baskerville and Wood-Harper 1996; Malaga 2007). One should ask the following questions: how did the visible travel information space, as reflected by
search engines, change every day? How did the rank of the business change in a week/month/year for certain queries? What are those changes based on? Who are competing with you on those keywords during different time periods? What are visible comments and feedbacks on those social media sites? To answering those questions needs a new methodology on monitoring the dynamic space of ranking, queries, and social media sites.

**Conclusions and Future Research**

This paper offers a conceptual framework that defines the strategic issues for destination marketing organizations in their effort to market destinations through search engines. It is intended as “food for thought” with the hope to stimulate new ways of thinking and provide the foundation for new research directions and projects. Obviously, like other conceptual works it may require empirical evidence from the hospitality and tourism field to corroborate these statements besides empirical findings presented here. In addition, within the changing technology field, any study of search engines is bound to be a snapshot of the current dynamic space. Many technological developments will continue to change the battlefield. For example, new search engine Bing.com claimed to be a “decision engine” by providing search function specifically for travels. The boundary between general search and specific travel searches started to blur (Cohen 2009). Furthermore, the popularity of social network sites (e.g. Facebook and Twitter) and mobile applications (e.g. iPhone Apps) will inevitably steal traffic from the general search engines and continue changing this landscape. However, it seems that we are still far away from the day when technologies are sophisticated enough that they can perfectly anticipate any information needs based on locations, user preferences, and learned behavior, thus making search obsolete. Search engines will continue to play a crucial role in helping travelers find
information and connecting tourism businesses and DMOs with potential customers.

Future research can focus on incorporating alternative methodological techniques that can better capture the dynamic nature of online travel information search. Since one tourism business’ success is determined by the SEM strategy of other competing businesses, and also the strategic changes of the search engines, game theory seems a good framework to study the system (Gibbons 1992). Simulation using mathematical modeling can assess the evolution of search engines, tourism information providers, and information searchers’ behavior (Axelrod 1997). In addition, time series analysis with the aim to forecast future search trends can be used to further our understanding of the evolving dynamics in online travel information search (Song and Witt 2000; Frechtling 2001).

Given the real-time changes of this information landscape and search system, there are many new online tools available which can provide large-scale and up-to-date data. Many search engine companies and search providers provide these types of tools, many for free. However, these tools are based on different platforms or different user population of certain technology. Thus, they should be used cautiously and cross-checked with each other. For example, Google AdWords Keywords Tool provides the search volumes for certain queries in the past month and average monthly volume in the past year based on Google search data through mining users’ query logs and related keywords. Wordtracker, on the other hand, crawls meta-tags on web pages, and makes recommendations based on the connections between those terms. With these tools, businesses and organizations could do extensive research on the related keywords and how they are connected to the target market of a destination or a business. In addition, there are also tools
available to estimate the traffic for certain queries on search engines or website traffic in general, including Hitwise, Google Analytics, Google Trend, and Google Insight. Using these volume estimation tools, one can track the exact performance of one’s online marketing efforts and the benchmarks of its competitors (Ellery et al. 2008). Though limited in each specific platform, the triangulation of the data sources could provide a more accurate picture on the performance of one’s market and its competitors and, therefore, strategic directions for tourism businesses and destinations in their SEM programs.
REFERENCES


Figure 1. Google Search Engine Results Page: Keywords “new york hotels”
Figure 2. The Search Engine Marketing Triad Model
Figure 3. The Dynamic Changes of Top Five Websites for Two Queries on Google in One Month
<table>
<thead>
<tr>
<th>Type</th>
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