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Information technology in tourism

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Abstract

In this paper, two mixed quadrature rules (I and II) are constructed for approximating the evaluation of numerical integration, by blending Cleanshaw-Curtis five point rule of precision five with another two quadrature rules (five point Fejer's second rule and Boole's rule) of same precision, provided that the new constructed rules are of precision seven. In addition, another mixed quadrature rule (III) has been formed by taking the combination of two newly formed quadrature rules (I and II). Moreover, errors of the constructed rules are analyzed and approximated.

Keywords:

1. Introduction

Many Tourism is travel for recreational, leisure or business purposes. The World Tourism Organization defines tourists as people "traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes". Information technology (IT) is the acquisition, processing, storage and dissemination of vocal, pictorial, texture and numerical information by a microelectronics based combination of computing and telecommunications. IT is the area of managing technology and spans wide variety of areas that include but are not limited to things such as processes, computer software, information systems, computer hardware, programming languages, and data constructs. IT professionals perform a variety of functions (IT Disciplines/Competencies) that ranges from installing application databases. Information technology has deep implications for economic and social development. The most important benefit associated with the access to the new technologies is the increase in the supply of information.

Use of Information Technology In Tourism

Travel and tourism has not only become one of the world's largest industry but also grows consistently every year. Between 1990 and 2000, tourist arrivals worldwide grew at an average rate of 4-3 percent per annum. Travel and tourism represent approximately 11% of the worldwide GDP, according to the World Travel and Tourism Council. World Tourism Organization predicts one billion international arrivals in the year 2010 and has forecasted that by 2020, international tourist arrivals to Asia and Pacific region would experience over 400 percent growth from 105 million in 2000 to 438 million in 2020. As the world is being ushered into the information age, adoption of the information technology (IT) is rapidly increasing. Internet has transformed the world into a global village that can be navigated at the click of a mouse. It provides potential tourists with immediate access to textual and visual conformation on destinations throughout the world. The Internet has also become an essential tool in business to business (B2B) and business to consumer (B2C) transactions, the distribution of products, networking of business partners, and is an instantaneous means of accessing knowledge on all kinds of subjects including travel and tourism information. The internet can be accessed through mobile telephone, cable-television, fixed telephones using traditional personal computers and laptops. Information is readily available 24/7 and the resulting cost transparency enables consumers to make more informed choices.

This ease of access and depth of information has stimulated the emergence of a new breed of travel consumers who are independent and prefer to search for holidays themselves online, rather than through travel agents. And the majority of the people connected to the Internet happen to be from the world's top three tourism spending markets - Germany USA and UK. The Internet is already the primary source of tourist destination information in these major markets. It has outpaced traditional sources of information on tourist destinations within the short period of its existence. Its audiovisual presentation of information on destinations outdoes the glossiest and most colorful print, and the quality of the presentation plays a

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decisive role in the end- consumer's choice of one destination over another. Internet also offers tourism destination and businesses the means to make information and booking facilities available to millions of consumers around the world at a relatively low cost, while at the same time enabling them to cut down drastically on amounts invested in the production and distribution of promotional materials. Travel and tourism are fast becoming the largest category of products sold on the Internet, which must therefore be seen as the new marketing battlefronts for tourism destinations in Asia-Pacific. Apart from the Internet, technological advances gave rise to other electronic distribution platforms such as interactive satellite television and mobile devices. The expected proliferation of satellite TV and m-commerce will gradually intensify competition among intermediaries who will have to reengineer their business processes and evolve new business models in order to survive and remain competitive (Buhalis & Licata, 2002) It is therefore, in the best interest of the Asia-Pacific region to keep abreast with time and step up its use of IT to satisfy the thirst for instantaneous tourism information on destinations.

Need of Information in Tourism

Travel is a basic human nature. Technological revolutions in the last few decades and the resulting changes in the social systems go faster its intensity in the current century. Thus, tourism is presently a mass phenomenon involving every human being in the world. They need detailed information about each place they intend to visit. The specific elements of such information needs are:

- Geographical information on location, landscape and climate, etc.
- Information Needs in Tourism
- Accommodation, restaurant and shopping facilities
- Accessibility though air, railway, water and road and availability of scheduled means of transport
- Social customs, culture and other special features of the place
- Activities and entertainment facilities
- Seasons of visit and other unique features
- Quality of facilities and their standard prices including exchange rates

Though the ultimate users of this information are the tourists, the actual benefits in money terms accrue to the tourism industry consisting of the destination managers and service providers. The travel intermediaries like travel agents, tour operators, and reservation system store such information in respect of each destination to service their clients and improve their business.

Tourists generally need both static and dynamic information. It includes details information about location, climate, attraction features, history, facilities available, etc. Information about airline, train and bus schedules, tariffs of transport and accommodation units and current availability of such facilities is considered as dynamic as they can change very frequently. These items of information have to be gathered, stored and disseminated on a real time basis. All types of reservation systems including air, railway and accommodation sectors contain such information.

The tourism industry is made up of three major components: namely,

- a) Transport sector,
- b) Accommodation sector
- c) Attraction sector

Transport Sector

Transport provides the essential link between tourism origin and destination areas and facilitates the movement of holidaymakers, business travelers, people visiting friends and relatives and those undertaking educational and health tourism. Before setting out on a journey of any kind, every traveler makes sure which Transport Company has a good safety record. To this effect, airplanes coaches and even taxis are equipped with good communication equipment. An Airplane flies with the help of modem information technology equipment which provides information ranging from weather, altitude and other information to the pilot to communication made during emergency by the pilot with other airplanes and air traffic control stations. In-flight entertainment is also a product of information technology, video games, video films are examples.

In the case of buses/coaches and taxis, in many countries with developed tourism business, they are equipped with radio communication systems for various uses. This communication ensures the safety of tourists. Fast and easy information flow is of paramount importance to build confidence in the travelling public. In recent years, the confidence built due to the use of modern IT has been demonstrated by a tremendous increase in the number of travelers worldwide.

Accommodation Sector

In the accommodation sector also the contribution of information technology is prominent. Any individual or group wishing to travel to any part of the world now has an easy access to the accommodation service providers. A visitor can access an information about the kind of hotels at the destination, their ranges of product, the price and other relevant information without leaving his/her office or home. What one has to do is to ring up a travel agency and get the expert advice. This will help any visitor greatly as to where to stay during any kind of away from home. Here the information can be obtained aided by still or moving pictures in order to give an exact feature of an accommodation, facilities and services of ones choice. At a destination also visitors are at ease during their stay in every respect, in getting information about their business, family or other information back home. They are also at ease to relax with the videos and television entertainment programs, which nowadays are part and parcel of many accommodation units.

Attraction Sector

In the case of attractions both manmade and natural attraction owners need to communicate or inform their customers and potential customers about their production. Information about the kind of attraction, where they are located and how to get there is of vital importance. The attraction owners particularly the national tourist offices discharge their duty of promoting their country's tourist attractions using the information technology products. Information through promotional videos, Internet web Sites, television advertisements and travel documentaries are the main information dissemination tools.

Travel Intermediaries and The Role Of Information Technology

One of the unique characteristics of tourism products is the need of the role played by the so-called travel intermediaries. These travel intermediaries are travel agents, tour operators, conference organizers booking agents etc. They are so important again because of the nature of the tourism product, perishability and intangibility. This means service products

including tourism, cannot be stored for a litter sale, and cannot be inspected for their quality before purchase respectively. This entails a very big effort for marketing and distribution of these products. Tourism product supply is fragmented both geographically and as product component, coupled with their relatively low capita' volume, individual components cannot afford to market and distribute their product for the dispersed potential and actual customers on their own. Let us take an airline company as an example. An airline company, which flies many destinations, can have a representative but cannot have so many offices or product distribution channels in all routes it serves.

CrS (Computer Reservation System)

The airline CRS systems were the pioneers of computer applications in the 1950s and are now virtually indispensable to airlines because they enable their revenue streams to be maximized by efficient inventory control (an inventory in this context refers to an airline's stock of passenger seats that is available for sale). However, these days, hotel and car hiring companies by renting the service from the airline companies are also employed these systems. The technology works by using computers of special kind and leased telephone lines. The travel agent is connected online to the central host computer system or CRS. The host computer is almost always a mainframe with massive database attached. The mainframe host polls each travel agent terminal every second or so, to see if it has any messages to send. In this system it is possible that airliners, Hotels and car rental companies can talk to the travel agent and vice versa. This system contributes to a great extent in increasing sales volume and giving precise information on the availability and selling the products efficiently ensuring substantial profit gain.

Gus (Global Distribution Systems)

GDSs are systems which distribute reservation and information services to sales outlets around the world. Unlike the CRSs used solely by an airline or hotel chain, GDS distribute more than one CR5 to users who are usually travel agents. (IDSs were formed from the airlines of several CRSs, each of which had its airline backer. Once formed, there was a period of some consolidation and shakeout, after which four main GDSs emerged. These are Amadeus, Galileo, Sabre and World Span.

These world leading GDSs are switches or simply computers that are connected on the one side to many different supplier systems and on the other side to many end users. The end users of switch comprise travel agents with a single reservation system to support the sale of airline seats and related travel products such as hotel-and car hire, via a single computer terminal, usually a Personal Computer. All the GDSs, are owned by a group of airline companies. Eleven carriers of different countries for example own Galileo and there are 500 participating airlines companies. GDSs require massive investment because they are extremely large computer systems that link several airlines and travel principals into a complex network of PCs, telecommunications and large main frame computers. It is not important here to go into the complex operation how these GDSs are working. However it is pertinent to say that GDS are the macro version of CRSs with a specialized and improved information technology for the distribution of Travel Product.

Internet and Tourism

Internet is an interconnected system of networks that connects computers around the world via the TCP IP protocol. Today, the internet is a global "people's network*" for communicating and sharing information. It consists of two powerful tools-email and the World Wide Web. The WWW is the part of the internet where a vast global information resource, or library, has emerged in recent years. The use of the Internet for communicating and transacting with customers has been growing rapidly in the worldwide tourism & hotel industry. There has been rapid increase in the online booking in the hospitality & tourism industry e.g., c-booking of hotel/motel rooms, airline tickets, travel packages etc. due to the fact that the industry is one of several services - which can be checked, inquired, and ordered online easily, and conveniently communicated and delivered electronically via the Internet. Following arc different area where internet is used in tourism industry.

a) Marketing

Technology tap almost every aspect of marketing, including:

- online advertising
- editorial and newsletters
- Special website to provide information of specific region e. g. <http://www.maharashtratourism.gov.in>
- search engine marketing
- email promotion
- word-of-mouth via social networks like blogs with customer reviews, communities such as the free Flickr photo sharing website and YouTube video sharing site, discussion groups and facebook

b) Booking systems

Latest research suggests that more than half those who travel book online when they have the option so it pays to have a real-time system for sales and reservations.

c) Delivery of visitor experiences

Tourism operators are using technology to:

- provide an initial experience on-line, for example, experience-driven web content or tasters delivered pre-trip by online audio podcast or video clips
- deliver audio tours for use on-site via MP3 players
- provide interpretation via mobile phones or handheld devices
- link customers to other experiences in your region, such as recommending other things to see or do on your website or as part of your tour or experience. In this way, you can help your customers understand how they can be part of a bigger visitor experience.

d) Customer relationships and follow-up

Technology is a great way to continue customer contact using:

- a contact database
- an electronic newsletter to help keep your brand and the visitor experiences you provide in people's minds
- group email lists for regular updates
- incentives or encouragement for customers to place reviews on travel sharing websites such as TripAdvisor.
- customer email feedback that you can use to improve your product
- email-based customer satisfaction surveys.

e) Digital Coach Program

Operators interested in learning how to get online can participate in Tourism Tasmania's Digital Coach Program. The Digital Coach Program is free and gives participants access to six experts in online marketing and distribution. The program's coaches make getting online easy by sharing advice on the e-connect forum, phone assistance, small group and one on one support.

Facilitation and Information Technology

Facilitation is one important aspect of enhancing tourism business. Facilitation includes, issuing of visa, customs clearing and immigration check in ports. Lack of appropriate management in giving fast and efficient service to tourists in this area will deter the tourist flow substantially. Recently, development has come about in using electronic medium for facilitation purpose. An example on this subject is Australia; a country developed 'Automated Visa Application system' what is called ETAS (Electronic Travel Authority System). This system works with three inter-linked functions, each of which is supported by computers that are located in different parts of the world.

(i) A front-end ETA application processing system supported by travel agents chosen GDS or CRS. (ii) An international data collection and routing system based on a SITA computer located in Atlanta, and (iii) a data base look-up and electronic funds transfer system supported by the Australian Immigration Department's computer in Sydney (Inkpen, pp 52). Based on these networks the electronic visa, where nothing will be put on the applicant's passport will be processed for the traveler by an authorized travel agent. The travel agent feeds its computer with all details of the traveler and transmits to Australia where the details appear on the Australia Immigration Department computer. At arrival the visitor will be checked in the immigration computer at Sydney Airport by simply entering his pass port number. This system has proved to be efficient and time saving and had generated an immense tourist flow from year to year to Australia.

Conclusion

Tourism in today's world is a very big economic and social activity, generating a large amount of income, employment and foreign currency and investment opportunities. Though, currently, the developed nations are getting the lion's share of the benefit of tourism, there is a promising future for the developing nations also. The paramount use of IT in tourism business activity by itself does not mean anything, unless it advances the idea of human development. It should contribute to the over all development of a country. The contribution of tourism towards socio-economic development and environmental conservation is immense. Apart from satisfying the recreational, educational and other needs of tourists, tourism could be used as a community development vehicle aimed at local people at the destination area. At macro level tourism gives an alternative or additional foreign currency source which is very much scarce in developing countries.

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