Developing Travel and Tourism Competitiveness through IT

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Abstract—*The purpose of this paper is to look at the Travel and tourism (T&T) competitiveness in India. The information technology (IT) is found to be a significant predictor of T&T competitiveness. The paper begins with an overview of the problem highlighted in the literature and then moves on to what has already been done to solve the problem in the Indian T&T sector. Research shows that the country's political and regulatory framework, Infrastructure and digital content, skills, business and innovation management remain largely insufficient and ill-adapted to the needs of the T&T competitiveness.*

Keywords: *Competitiveness, travel and tourism, Service sector, IT, India, emerging economies*

1. INTRODUCTION

1.1 The Concepts of competitiveness

The competitiveness of industry and firms have been one of the most important themes of research in the fields of economics and business studies. Although the concept of competitiveness of nations was initially proposed by economists [1], the term has also gained importance as a subject of study among management scholars during the last decade. Competitiveness is a multidimensional concept. It can be looked at from three different levels: country, industry and firm. Competitiveness originated from the Latin word, *'competer'*, which means involvement in a business rivalry for markets. It has become common to describe economic strength of an entity with respect to its competitors in the global market economy in which goods, services, people, skills and ideas move freely across geographical borders [2].Organisation for Economic Co-operation and Development (OECD) defined competitiveness as, ''the degree to which a country can, under free and fair market conditions, produce goods and services which meet the test of international markets, while simultaneously maintaining and expanding the real incomes of its people over the longer term'' [3]. Some researcher [4] discussed the main related factors of competitiveness in the Hotel Industry. The tourism cluster, presents a more positive potential than other clusters in contributing to India's growth [5].

2. PROBLEM OF THE STATEMENT

A nation that can boast of its historical and cultural heritage and that has a heart as big as the universe is none other than India. Each corner of the country has a host of tourist destinations that will mesmerize everybody. The beautiful combination of backwaters, forests, wildlife and historical tours down south in Kerala with a similar experience with snow on top in Kashmir is what India can provide. With a capital investment of $94.5 billion, the demand for the travel and tourism industry in India is expected to grow by 8.2% and is subjected to employ around 40,037,000 people by 2019. Even the hospitality sector, which is a $23 billion industry, is expected to almost double in size in next five years.

According to the above paragraph, India seems to be a perfect place to be visited by the tourists but still the tourists arrival is increasing very slowly and growth is very low (2% only). The following research questions are stipulated as below:

Research issue 1: The images of India as a tourism destination for travellers.

Research issue 2: The country's T&T remains largely insufficient and ill-adapted to the needs of the economy.

Not a single research is done on T&T competitiveness. Some research was done earlier on the competitiveness of hotel industry in India [4] but not as a whole on T&T industry. Extensive studies on competitiveness have not been carried out in T&T industry context and no study had been carried out to improve T&T competitiveness with the help of IT.

3. THE RESEARCH OBJECTIVES PURSUED REFER TO

Work from previous studies can be grouped into four broad objectives which are important for travel and tourism competitiveness:

1. To identify and study the T&T competitiveness in India.
2. Assess the existing T&T Information Technology.
3. To assess the interventions for improving the quantity and quality of tourism.
4. IT facilities will be strengthened and developed in the T&T sector in India.

4.   ELEMENTS OF THE NETWORKED READINESS INDEX (NRI) [6]

The networked readiness framework translates into the NRI, comprising four sub indexes that measure the environment for IT; the readiness of a society to use IT; the actual usage of all main stakeholders; and, finally, the impacts that IT generates in the economy and society. The three first sub indexes can be regarded as the drivers that condition the results of the fourth sub index—that is, IT impacts. These four sub indexes are divided into 10 pillars and 22 variables according to the following structure [see Fig. 1]:

A. Environment sub index

1. Political and regulatory environment

2. Business and innovation environment

B. Readiness sub index

3. Infrastructure and digital content

4. Affordability

5. Skills

C. Usage sub index

6. Individual usage

7. Business usage

8. Government usage

D. Impact sub index

9. Economic impacts
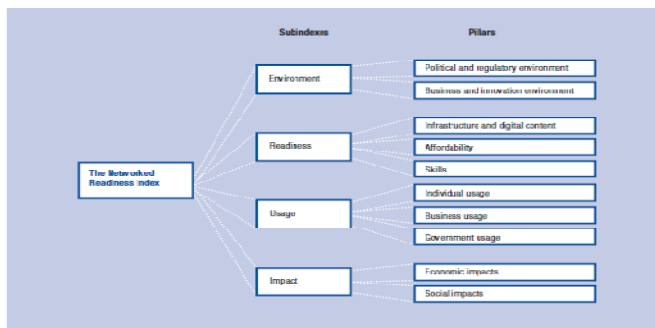
10. Social impacts

Fig. 1: The evolved Networked Readiness Index (NRI) Structure

A brief description of the different composing elements (at the sub index and pillar level) follows.

A.   Environment sub index
The environment sub index gauges the friendliness of a country's market and regulatory framework in supporting high levels of IT uptake and the development of entrepreneurship and innovation-prone conditions. A supportive environment is necessary to maximize the potential impacts of ICT in boosting competitiveness and well-being.

The political and regulatory environment pillar assesses the extent to which the national legal framework facilitates IT penetration and the safe development of business activities, taking into account general features of the regulatory environment as well as more IT-specific dimensions (the passing of laws relating IT and intellectual property protection).

The business and innovation environment pillar gauges the quality of the business framework conditions to boost entrepreneurship, taking into account dimensions related to the ease of doing business. This pillar also measures the presence of conditions that allow innovation to flourish by including variables on the overall availability of technology, the demand conditions for innovative products, the availability of venture capital for financing innovation-related projects, and the presence of a skilful labour force.

B.   Readiness sub index
The readiness sub index, measures the degree to which a society is prepared to make good use of an affordable IT infrastructure and digital content.

The infrastructure and digital content pillar capture the development of IT infrastructure (including the mobile network coverage, international Internet bandwidth and secure Internet servers) as well as the accessibility of digital content.

The affordability pillar assesses the cost of accessing IT, either via mobile telephony or fixed broadband Internet, as well as the level of competition in the Internet and telephony sectors that determine this cost.

The skills pillar gauges the ability of a society to make effective use of IT thanks to the existence of basic educational skills captured by the quality of the educational system, the level of adult literacy, and the rate of secondary education enrolment.

C.   Usage sub index
The usage sub index assesses the individual efforts of the main social agents—that are, individuals, business, and government—to increase their capacity to use IT, as well as their actual use in their day-to-day activities with other agents.

The individual usage pillar measures IT penetration and diffusion at the individual level, using indicators such as the number of mobile phone subscriptions, individuals using the Internet and the use of social networks.

The business usage pillar captures the extent of business Internet use as well as the efforts of the firms in an economy to integrate IT into an internal, technology-savvy, innovation-conducive environment that generates productivity gains. Consequently, this pillar measures the firm's technology absorption capacity as well as its overall capacity to innovate and the production of technology.

D. Impact sub index

The impact sub index gauges the broad economic and social impacts accruing from IT to boost competitiveness and well-being and that reflect the transformations toward an IT- and technology-savvy economy and society. The economic impacts pillar measures the effect of IT on competitiveness thanks to the generation of technological and non-technological innovations in the shape of patents, new products or processes, and organizational practices. In addition, it also measures the overall shift of an economy toward more knowledge-intensive activities.

5. RESEARCH METHODOLOGY

The quantitative approach is adopted as the research methodology. The methodology adopted in this research is quantitative because all factual information and knowledge collected is numerical. A quantitative survey is considered to be the most feasible and adequate research strategy for this research as it is beneficial to deal with the questions of 'what' the important competitiveness factors are, and 'how much' strength these factors have [7]. To increase the sample size of the survey, two approaches are adopted. First, an invitation letter and e-mail are sent to directors and senior executive managers of various major Travel and Tourism Industry in Bangalore, Delhi, Mumbai, Kolkata, Chennai, Goa, Pondicherry, Ooty, and Mysore in India. Questionnaire surveys are then distributed by e-mail or post to those directors or managers accepting the survey invitation. The respondents are invited to distribute the questionnaires to their industry partners or practitioners that they know to have rich experiences in Travel and Tourism development in India. A total of 180 questionnaires are despatched via both e-mail and posts, and 58 returns are used for the analysis—giving a net usable response rate of 32%. The questionnaire consists of two sections. The first section serves to introduce the objectives and scope of the survey. This section is also used to collect demographic data regarding the respondents' previous experience and general knowledge in the area. In the second section, participants are invited to provide their opinions on the importance of proposed factors that influence competitiveness in T&T in India on a five-point Likert scale (1'Not important at all' to 5'Most important'). A total of 45 proposed factors are generated from the review of the T&T Competitiveness Framework.

Mean importance rating and statistical t-tests of the means are carried out by the SPSS software package. Those elements found to be statistically important are used to identify the important factors. All proposed factors are first calculated, ranked and compared according to their mean score ratings.

6. FINDINGS AND DISCUSSIONS: SUMMARY OF THE SURVEY RESULTS

Table 1 summarizes the results of the total of 22 proposed competitiveness factors considered by the respondents.

Interestingly, the survey results reveal that the top-ranked attribute is 'Secure Internet servers per million population' (M=4.75, SD=0.818). After all, the results of the perceptions of important competitiveness factors in IT that influence the T&T Industry in India are summarised in Table 1.

Table 1: Perceptions of important competitiveness factors that influence the t&t industry in India

SN	Competitiveness Factors	Mean (t value, SD)	Rank	Factor loading
1st Pillar: Political and regulatory environment				
1.1	Laws relating to ICT	4.22 (3.62, 0.892)	10	0.954
1.2	Intellectual property protection	4.42 (3.95, 0.833)	7	0.906
2nd Pillar: Business and innovation environment				
2.1	Availability of latest technologies	4.70 (4.35, 0.879)	2	0.958
2.2	Time required to start a business, days	3.67 (3.45, 1.02)	17	0.963
3rd pillar: Infrastructure and digital content				
3.1	Mobile network coverage rate	3.33 (3.31, 0.753)	22	0.940
3.2	International Internet bandwidth, kb/s per user	4.66 (4.27, 0.897)	3	0.936
3.3	Secure Internet servers per million population	4.75 (4.43, 0.818)	1	0.956
4th pillar: Affordability				
4.1	Mobile cellular tariffs, Rs/min.	3.81 (3.47, 0.781)	13	0.965
4.2	Fixed broadband Internet tariffs, Rs/month	4.62 (4.22, 0.820)	4	0.962
5th pillar: Skills				
5.1	Quality of educational system	3.87 (3.49, 0.912)	12	0.975
5.2	Quality of math and science education	4.50 (4.09, 0.845)	6	0.956
6th pillar: Individual usage				
6.1	Internet users per 100 population	4.60 (4.19, 0.861)	5	0.962
6.2	Fixed broadband Internet subscriptions per 100 population	3.46 (3.41, 0.573)	21	0.921
6.3	Use of virtual social networks	4.25 (3.63, 0.892)	9	0.941
7th pillar: Business usage				
7.1	Firm-level technology absorption	3.78 (3.46, 0.748)	14	0.953
7.2	Capacity for innovation	4.36 (3.69, 0.830)	8	0.934
7.3	Extent of staff training	3.92 (3.51, 1.25)	11	0.948
8th pillar: Government usage				
8.1	Government prioritization of IT	3.55 (3.42, 0.847)	20	0.937
8.2	Importance of IT to government vision of the future	3.60 (3.44, 0.802)	19	0.931
9th pillar: Economic & social impacts				

9.1	Impact of IT on new services and products	3.76 (3.47, 0.901)	15	0.958
9.2	Impact of IT on new organizational models	3.64 (3.46, 0.827)	18	0.891
9.3	IT use and government efficiency	3.72 (3.46, 0.877)	16	0.942

Individual item reliability is assessed by looking at the loadings of each item with their construct. The minimum level threshold for item loadings is 0.7 [8]. As seen in Table 1, all items in our analysis are well above the 0.7 threshold with the lowest item loading at 0.891, thus providing results for individual reliability.

7. CONCLUSIONS AND FUTURE WORK

India is well assessed for its natural resources and cultural resources, with many natural and cultural World Heritage sites, rich fauna, many fairs and exhibitions, and strong creative industries. India also has a quite good internet connection and reasonable innovation, although the quality of IT requires further improvement. In addition, India remains a relatively price competitive destination, even in the regional context. However, some aspects of its IT infrastructure remain somewhat underdeveloped, with less 3G mobile network coverage rate and less number of fixed broadband internet subscribers by international comparison. The finding only reflects respondents from a few organisations located in a few large cities in India. A larger sample size should be allowed in further studies to ensure that the results can be better generalized. In addition, the research adopted a quantitative approach, and the use of a questionnaire (with a limited number of interviews) on competitiveness research may have led to a more desirable rather than realistic answer. A quantitative–qualitative approach such as the analytic hierarchy process (AHP) and the analytic network process (ANP) should be considered for inclusion in the research method in any future studies.

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