

# **THE STUDY OF ICT CAPACITY ON CREATING AND IMPROVING SUSTAINABLE URBAN TOURISM WITH EMPHASIS ON RESIDENT QUALITY OF LIFE**

by

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## **ABSTRACT**

Sustainable urban tourism with emphasis on positive multi lineage relation between environment, human and Communities cause in increasing a proper long term sustainable effect on resident quality of life .some of this effects are: increasing incomes with preserving customs, increasing a recreation service facility ,improving urban decoration with cultural symbols, increasing job opportunity that related to handicrafts and art. development in new technology like internet provide a new solution for enriching a sustainable tourism in marketing and offering handicraft and tourism service, understanding historical space while contacting with host, gust and tourism officials. So in this paper we try to study and evaluate new capacity of ICT for tourism using and Introducing attraction and urban tourism service and impact of that on resident quality of life. So this is a analytical paper that form with studying a relative documents and extracting a proper concept.

## **KEYWORDS**

Sustainable Urban Tourism, Information and Communications technology, Resident Quality of Life

## **INTRODUCTION**

Analyzing ICT functioning in different industries such as tourism seem to be of out most importance in a way that, this effect since 1980 has revolutionized tourism's industry ( Ip el al, 2011:234) and has effected all sections of this industry(Reino et al, 2011:66) number of researchers believe that ICT is one of the criteria's for identifying sustainable development (Fathi& Motlagh, 2010:47) and needless to note that sustainable development in tourism industry is a case of conflict( Saarinen, 2006), and as a management guide in tourism industry is revealed for protection and adding up opportunities in future of industry (Tsaaur& Wang, 2007 :127).

In an overall definition sustainable development can be identify as strategic development that will manage all properties, natural and human resources such as economical and physical properties for long time (Tosun, 2001 :290) and will include economic and biologic processes towards improving life systems (Tsaaur& Wang, 2007 :128), cities are able to attract tourists from different areas such as historical, cultural, business, sport, entertainment, shopping and etc.

(Ashworth&Page, 2011:10) that can provide, many inside stakeholders groups like jobs holder, employees and citizens. Urban tourism's sustainable development creates possibility of increase in economical, social and environmental benefits, plus reduction in negative effects of tourism's in an urban, in such a way that affects qualitatively in local people's life as one of the stakeholders.

Thus, as concepts of ICT has the able to publicize meaning of urban tourism sustainable development through creating job holder's more economic benefits, better cultural introduction, better evolution of society plus tourism and etc., therefore it is closely tied with quality criteria's of people and host society. So in this article, the search will be towards identifying ICT capacities in urban sustainable development with regard to its effects on host society life.

## **LITERATURE REVIEW**

Using information and communication technology in tourism industry has a long history in a way that, Kromideh & Muca (2011) had recognized computerized ticket reservation in aviation industry, the first internationally usage of information technology (65) Sirirak et al, in their research had discovered a very strong positive relation between ICT usage in tourism industry, functional productivity and customer satisfaction. (Sirirak et al, 2011:34). Berton & Altintas had come to this conclusion that managers in hotel sections, restaurants, and hospitality for improving excitable processes should increase their usages of information and communication technology (Berton& Altintas, 2011:49). Oconner & Murphy also had indicated that using internet in tourism's attraction zones, pricing and customer interactions are effective (Oconner & Murphy, 2004:473). Pena & Jamilna had identified that, ICT is appropriate for rural tourism strategy (Pena & Jamilna, 2010:35).of course Susskin & Stefaney, has come into conclusion that factors such as security, confidence and latency are factors that can widely limit the use of internet in tourism industry(Susskin & Stefaney,2010:7).

Also different research has been don in relation to sustainable development subject in tourism industry that many different subjects such as environmental (Hunter& Shaw, 2007), cultural (Hawkin ,2004), political (Yasarata et al, 2010), business (Tesone, 2004, Dinan& Sargean, 2000) and economical (Tao& Wall, 2009) can be mentioned. Sustainable tourisms domains with domains regarding urban tourism are covering, cultural, political, physical, economical and concept domains (Edwards et al, 2008:1036). These domains cause studding of urban sustainable tourism be as comprehensive as can be in all dimensions of sustainable development.

### **Sustainable development and urban quality of life**

Sustainable development of tourism has three main criteria's that are as:

- 1) Physical-Ecological Sustainability
- 2) Social-Cultural Sustainability
- 3) Political-Economic Sustainability; so each one of these has different characteristically dimension that is shown in table No.1.

**TABLE 1**  
**STANDARDS AND DIMENSIONS OF TOURISM SUSTAINABLE DEVELOPMENT**

Items	Name of Criteria	Dimension
1	<b>Social- cultural sustainability</b>	a). Satisfaction Toward Tourism Development
		b). Travel Safety
		c). Conservation and protection of local
2	<b>Physical- Ecological Sustainability</b>	a).Completeness of Ecosystem
		b).Completeness of Recreation Related Facilities
		c).Waist and Pollution Management
		d).Supply of Energy and Weather Resources
3	<b>Political- Economical Sustainability</b>	a).Economic Effects
		b).Increasing of Employment Opportunities
		c).Sustainable Policy and Administration

Source: Tsaur & Wang (2007: 136)

The quality of urban life is closely related to standards and dimensions that are shown in table 1. Of course, these dimensions resulted from different studies done for different cities with little changes have been mentioned in table no.2.

**TABLE 2**  
**URBAN QUALITY OF LIFE DIMENSION**

Items	Urban quality of life dimension	Reference
1	Economical, Political, Environmental, Social, Educational	Liu(1976)
2	Weather, Housing, Environmental and Health, Crime, Transportation, Education, Art, Entertainment, Economy	Boyer and Savegeau (1981)
3	Climatically downfalls, Numbers of warm days, Numbers of cold days, Humidity, Wind speed, Sun shining Beach, Crime, Particles, Waist materials	Blomquist et al(1988) Stover & Leven(1992)
4	Public Security, Food Expenditure, Living space, Standard housing Communication, Education, public health, Comfort, Traffic, Clean air	Sufian(1993)
5	Life expectancy, Illiterate rate, Medium purchase power	Human Devstxdex (UNDP, 1994)
6	Monthly personal income, Income distribution, monthly food expenditure	Pretassenke

Source: Ulengin (2007:243)

From all criteria above some are more important than the others, like economic criteria, that some believe amount of income more than 50 percent is more effective in creating satisfaction (Kim et al, 2012:3). Connecting tourism sustainable development concepts and quality of life of host society can be generalized into two general and especial levels in order to analyze them.

A). Especial level: which includes all employed in urban tourism, like tourists guides, hotel employees, restaurants and job holders that economic improvements and amounts of incomes along with their health and job securities will effect on quality of their lives.(Tesone, 2004 :233).

B). General level: which cover all host society that is in one way or other part of stakeholders and impressments on tourism industry. Feeling of increase in quality of life and its perception by local people could cause increase in satisfaction (Kim et al, 2012:4) from tourism industry. Satisfaction that is adding up to customer satisfaction will result in situation improvement towards creation of sustainable tourism and will be effective in capital investment in the industry (Chancellor et al, 2011:496).

Urban tourism's sustainable development will provide and assures both groups, especial and general, benefits and because of close relationship with quality of life, can increase people's quality of life in host society, and reduces conflicts between stakeholders (Byrd, 2007: 12).

### Using ICT in urban sustainable development in regards to quality of life:

Sustainable development requires creation of proper conditions prior to implementation, and required conditions need long time investment. This is in a way that, quick efficiency analysis in tourism industry development has been one of important indicators in sustainable development assessments (Reddy, 2008:557). Therefore, a gap between nature of sustainable development and speed of expected efficiency is one of the problems within strategy and implementation of its sustainable development programs (Connell et al, 2009:876)

In order to removing this gap, one can use new technologies for strategic planning and implementation of sustainable development programs, in such a way that can improve trends of programs executions in that processes and increase their efficiencies. Since the dimension of quality of life as a whole, is the same as quality of environment, social communication, health feeling, condition of hygiene and health, economic situation and public properties (Budruk& Phillips, 2011:164) and they are closely related with sustainable development dimensions and indicators, therefore, comparative analogy of ICT capacities in three levels first, social- cultural, second, environmental-ecological, and third political-economic sustainability in urban tourism can guide us towards speeding up planning and implementing sustainable development which will cause higher efficiency and effectiveness.

### ICT capacities in urban social-cultural sustainability:

As mentioned before (Table No. 1) social cultural sustainability is divided into three Dimensions that each one has some indicators that are shown in table 3.

**TABLE 3  
INDICATORS RELATED TO SOCIAL CULTURAL SUSTAINABILITY**

Items	Dimension name	Indicators	
1	Satisfaction toward Tourism development	1	Tourist Satisfaction
		2	Residents Satisfaction
2	Travel safety	1	Frequency of accident
		2	Criminality frequency
3	Local culture Conservation and promotion	1	Cultural Conservation
		2	Tourists Participation

Source: Tsaur& Wang (2007)

Indicators in table 3 are in close relation with life's quality. Informational and communicational technology such as internet and urban comprehensive ports plus moving towards electronic urban provides possibilities of receiving and transferring information through electronic ports and results in rise of public awareness. In table 4 effects of ICT will be deal with in creating and adjustments of each one of indicators in social cultural sustainable development (Miller et al, 2010:629)

**TABLE 4**  
**DIMENSIONS AND INDICATORS RELATED TO SOCIAL-CULTURAL SUSTAINABILITY**  
**AND THEIR SAMPLE IN ICT FOR IMPROVEMENTS AND CREATING THESE INDICATORS**

Items	Dimension name	Indicators		ICT samples in improving and creation of indicator
1	Satisfaction toward Tourism development	1	Tourist Satisfaction	Through electronic ticket purchasing for historical places, on-line connection, attraction information and business connection etc....
		2	Residents Satisfaction	Through providing better services to tourists in websites, given ease access to urban services, processing cases quickly and providing ease connections with those in charge in urban
2	Travel safety	1	Frequency of accident	Through reduction in trafficking within the urban, using electronic purchasing , sales and connecting ports
		2	Criminality frequency	Through decreasing in cash trading and increase in ATM using by cards and electronic paying ports
3	Local culture Conservation and promotion	1	Cultural Conservation	Through transferring cultural information between society and visitors and providing wide range of cultural information in multi-media format for visitors
		2	Tourists Participation	Through interchanging cultural information by electronic ports, using social nets and chat rooms

**ICT capacities in urban Physical Ecological Sustainability**

As mentioned in table 1 physical ecological sustainability has 4 dimensions that in table 5 its indicators and capacities regarding to ICT in creation and sample of those indicators are pointed out.

**TABLE 5**  
**DIMENSIONS AND INDICATORS RELATED TO PHYSICAL ECOLOGICAL SUSTAINABILITY**  
**AND THEIR SAMPLE IN ICT FOR IMPROVEMENTS AND CREATING THESE INDICATORS**

Items	Dimension name	Indicators		ICT samples in improving and creation of indicator
1	Comprehensive Ecosystem	1	Vegetation covering	Doing some promotional advertising in web-site for people awareness about urban and importance of green covering of urban spaces.
		2	Biodiversity	Providing awareness for Society and tourists about how to preserve environmental habitant's thorough web sites.
		3	Quantity of Species	Giving information and access to information through web sites and helping people gaining knowledge.
		4	Spoiled coast lines	Keeping On-line control on coast lines, keeping close contact with those in charge through on-line ports.
2	Comprehensive Recreation related Facilities	1	Recreational Facilities	Promoting about recreational places, ticket sales, on-line purchasing on-line advertising and speeding up processes regularly

		2	Accommodation Facilities	On- line reservation for room in hotels, keeping watch over rooms situations and their ranking before entrance , possibility of comparing on-line
		3	Accessibility	Better access to shops, Departments, and services requests , providing on-line connections with different departments, organizations, providing access to bank's electronic systems, services from businesses and working relations with all the world and etc...
3	Waist and pollution management	1	Air Pollution	Through ease on-line connection with all over the world's businesses and avoiding unnecessary flights
		2	Noise Pollution	Through limiting unnecessary travel by using web sites for cases that can be done by them, such as purchases, sales, payments to banks and departments.
		3	Waste Treatment Capaurban	Through increasing in efficiencies of urban departments and increase in services quality which are provided to host society and tourists
		4	Recycle and Reduction	Through providing proper information in web sites , SMS, TV programs, cultural promotion (communication systems new and old)
4	Supply of Energy and Water Resources	1	Supply of Energy	Through avoiding urban travel by providing possibility of doing some cases on-line(before has been mentioned)
		2	Supply of Water Resources	Through improving society cultural preferences by providing information in mass media and on-line connections.
		3	Saving of Water/ Energy	Through improving society cultural preferences by providing information in mass media and on-line and making them realize the importance of Energy.

According to table 5, one of the most important of the ICT faces in supporting implementation and effectiveness of sustainability physical-ecological related programs is level of transferring information and messages plus effectiveness of this transferring has in people general behavior in urban dwellers.( Miller et al, 2010).

#### **ICT capacities in urban Political-Economic Sustainability:**

Political- economic sustainability contains 3 dimensions and 6 indicators that realization of them is very much related to amount of urban dwellers general and specific satisfaction, and therefore has noticeable effects on concepts and feelings of life's quality. Table No. 6 is describing ICT indicators and capacities in creating and improving these indicators.

**TABLE 6**  
**DIMENSIONS AND INDICATORS RELATED TO POLITICAL-ECONOMIC SUSTAINABILITY**  
**AND THEIR SAMPLE IN ICT FOR IMPROVEMENTS AND CREATING THESE INDICATORS**

Items	Dimension	Indicators		ICT samples in improving and creation of indicators
1	Economic Effects	1	Importance of Tourism	Informing and creating acceptance of tourism hospitality in order that prevention of cultural heritage of host society through web sites , SMS, Public relation medias
		2	Earning from Tourism	Presenting services related to tourism on-line , problems of attracting tourists to urban, direct presentation of handy crafts, and other tourists services, on-line sales and symbol presentation, on-line satellite connections
2	Increase employment Opportunities	1	No. of Employment	Increasing employment through attracting more tourists and increasing more income through on-line promotions and satellite connections
		2	% of Employment	And services quality improvement given to tourists through ewom and long period's relationship with customer or tourists (CRM), increase in businesses income related to tourism.
3	Policy and administration sustainability	1	Policy and planning	Taking feedbacks from plan 2 in a shortest time , on- line surveying, improving urban connections and receiving citizens suggestions, participation of citizens in tourism's programs, policies improvements for protecting urban benefits
		2	Media Administration	Creating possibility for citizens to choose manager, or keeping the present manager trough interactive information sharing in social comities and consulations, and media communications, higher connections between citizens and top managers and taking feedback about their satisfaction or dissatisfaction regarding their management

According to table 6, improvement in promotion and marketing communications through internet and providing possibilities of maximum interaction between citizens and urban managers, and creating long run connections of tourists and managing communication with them (CRM) and etc...results in planning stabilization and sustainable and proper urban management style plus increase in amount of employment and more incomes for businesses (economic or general ) plus general public, so will create more satisfaction for people in cities. This satisfaction, along with cultural promotions, easy access to information regarding environmental and societal living, will cause sustainable development and existing resources preservations, and future improvements for coming generations.

## CONCLUSION

ICT capacities in creating and supporting sustainable urban tourism models can be divided into three main groups that are as: 1) communication capacities, 2) information capacities, and 3) interactive capacities, that through these grouping improvements can be achieved in sustainable tourism indicators that are as: social-cultural sustainability, physical- ecological sustainability, and political-economic sustainability in the urban. Therefore, with preservation of social and environmental recourses, creation of economical befits are possible in the cities.

Closeness of concepts identifying sustainable development and quality of life causes sustainability of development to increase quality of life in host society and always in two levels, general (society as a whole) and specific (economic oriented businesses active in urban tourism) to be precise, that in today's world not using informational and communicational technology potentials such as satellite multi-media, audio-visual communicating devices, and the most impotent of all internet plus on-line world, such a development(development with emphasis on quality of life improvement for host society) is very difficult and even impossible. As ICT creates speed in information flows, it also causes integration within it, so with preventing parallel activities and avoiding conflicts will provide better urban management.

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