

# Role of Information and Communication Technology in Hospitality and Tourism Businesses: A Study of Women Entrepreneurs of Delhi NCR

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## Abstract

The role played by Information Communications Technologies (ICT) in the industries of hospitality, travel and tourism is vital. The urban cities of the National Capital Region (NCR) of India are a major business hub for tourism for many tourists to visit, being the focal point for major events in addition to having diverse tourism products of their own. Women entrepreneurs are playing a major role in the arena of hospitality and tourism in the region. This study aims at understanding the entrepreneurial thread amongst women business owners belonging to hospitality and tourism industry of Delhi NCR focusing on the ICT aspect as part of their business. A questionnaire- based survey was employed in an attempt to find out the current environment for ICT in the businesses of 54 women exploring the access and usage of ICT in their respective businesses and their need for support. Findings exhibited that women entrepreneurs used ICT as an important tool to network with the channel partners, communicate with the customers and suppliers, sell the products and services and search for customers and suppliers. The requirement for better ICT policies and support was highlighted as a result of this study.

**Keywords :** Women, Entrepreneurship, ICT, Hospitality, Tourism, Attitude

## Introduction - The Role of ICT in Indian Tourism

Evolution of ICT has brought forward phenomenal changes in people's communication, conducting of businesses and their interaction socially (Planning Commission, Government of India, 2001). As per the report by the Planning Commission, ICT has been recognized as a catalyst of good governance, economic globalization, sustainable development and social empowerment which has been recognized by many state governments. In India, the policies of liberalization, along with the government initiatives and the private sector which has adopted standards to develop infrastructure, accounting systems in addition to interconnections, have fueled the growth of regional WANs (Wide Area Networks) and satellite systems in India (VAPS, n.d.). The report by VAPS also highlighted that ICT being brought forward as a part of the national agenda and the importance accorded by the state governments

to ICT in their policies had made India's position strong in the world. The report had further mentioned the examples of states of Andhra Pradesh, Tamil Nadu, Delhi, Gujarat, Goa, Haryana, Kerala, Karnataka, Madhya Pradesh, Meghalaya, Maharashtra, Orissa, Rajasthan, Punjab, Sikkim, West Bengal, Uttar Pradesh and Pondicherry who had announced many ICT policies in their states respectively. As per Bethapudi A. (2013), the tourism industry is one of the industries that is highly growth-oriented and serves millions of tourists, domestically or internationally. It is regarded as a contributor to the national income of a country, a generator of employment for millions in turn contributing to the economic growth of a country. ICT has been a transformer of tourism globally (Bethapudi A., 2013). Further, Bethapudi explained that:

- ICT allows functions of supply chain management and customer relations to be amalgamated into one which takes care of operations such as selection of the product, ordering, payment, tracking and reporting.
- ICT's ability to handle many types of tasks, primarily reservations, increases the staff's efficiency – used by many tourism management companies.
- ICT's development has led to a change in demand for flexibility leading to supply of personalized options for tourists. The new technologies have enabled tourists to share ratings through social media or on websites regarding the tourism product and service as experienced by them, thus influencing the demand and supply of the same.

Internet has made access of travel-related information easier for both domestic and international passengers. Access to the required information has benefitted the travelers, who prefer to independently manage their itineraries as well as tourism businesses which can transmit their company's various packages attractively through the internet (Gupta V. and Gupta D.D., 2008). The researchers mentioned that <http://www.incredibleindia-tourism.org/> remained as the primary promotional portal of the Ministry of Tourism and <http://tourism.gov.in/> was the disseminator of information

on all the policies and organizational activities of the Ministry of Tourism. The researchers further explained that previous to 1995, the information related to tourism in India was primarily through brochures whose availability was scanty or word of mouth of relatives and friends who had travelled to different destinations. As per Gupta V. and Gupta D.D., access to internet in India began in 1995 through Videsh Sanchar Nigam Limited (VSNL), though the knowledge of ICT was lacking coupled with fear of its usage. Additionally, the limitations of ICT in the tourism sector in India were under usage of mobile applications by most travel, tourism and hospitality websites, strategic managers were unaware of operational level changes, untrained ICT staff, updated ICTs not being integrated with majority of the enterprises and unavailability of internet connectivity in large parts of the country (Bethapudi A., 2013).

Tourism industry in India has grown by leaps and bounds. The number of foreign tourist arrivals stood at 10.6 million in 2018-19 in comparison to 10.4 million in 2017-18 (Press Information Bureau, Ministry of Finance, Government of India, 2019). The role and use of ICT in such a scenario is phenomenal with the dependency of the tourists on ICT for planning their itinerary as well as the dependency of the industry to coordinate and execute the itineraries smoothly (Singh L. and Dhankhar D., 2014). ICT is inclusive of internet and wireless phone, radio, computer's connection (unlike intranet) to the internet, hardware, software, databases, operating systems, emails, tourism businesses networks or office productivity applications (Melham S. and Tandon N., World Bank, 2009). Online reservations during travelling also play an important role in tourism (Elçi, A & Abubakar, A & Ilkan, M & Eluwole, & Lasisi, T, 2017).

Apart from the role of women being limited to trained or untrained manpower in the travel and tourism industry, women entrepreneurs in this sector have been on an increase playing a pertinent role in decision making and other aspects of their businesses. Delhi NCR, being a major business hub is also an important centre for many tourists to visit. The region is a focal point for events like the SATTE (South Asian Travel and Tourism Expo), Travel and

**Figure 1: Map of Delhi NCR (Courtesy: National Capital Region Planning Board, Ministry of Housing and Urban Affairs, Government of India)**



Tourism Fair, International Travel roadshows, MICE India and Luxury Travel Congress, IITM (India International Travel Mart) etc. in addition to having diverse tourism products of its own. Thus the region creates numerous opportunities for entrepreneurs, especially women. Hence the need arises to study and understand the role essayed by ICT in the tourism businesses of women entrepreneurs of this urban region of Delhi NCR.

The objectives of the study are:

1. To assess the current role of ICT in Indian Tourism.
2. To explore the relationship between women entrepreneurs, tourism and ICT.
3. To understand the women entrepreneurs' demographic and business characteristics, access, usage, ownership of ICT exploring their preferences and needs for support in Delhi NCR.
4. To recommend measures pertaining to ICT based on identified limitations to augment the entrepreneurial journey of women of Delhi NCR in tourism.

## Literature Review

### Women Entrepreneurship and ICT

“Entrepreneurship refers to the act of setting up of a new business or reviving an existing business to take advantage of the new opportunities” (Gali R., 2016). Entrepreneurs are thus viewed as shapers of the economy through the act of creating wealth and jobs (ibid.). Women entering the arena of entrepreneurship is a recent phenomenon in India with economic globalization encouraging women to emerge as entrepreneurs, especially in India. Though there has been advancement, gender and social bias still exists in society. Melhem S. and Tandon N. (2009) explained that in the ICT industry and Information Technology Enabled Services (ITES) sector, there are disproportionately high numbers of women in the lowest-paid jobs at the lowest rung of the ladder. This makes it important to have development of women entrepreneurs as an essential way to create jobs, increase the Gross Domestic Product, and narrow the gender gap of a country (ADB, 2014). A report by UGC highlighted the perceptual aspect of masculinity and technology being related so strongly that there was exclusion of women from technical education resulting in their subsequent absence from technical jobs (Hosseini SB. and Manjunath S.J., 2016).

ICTs' advancement has introduced new opportunities for both men and women (Melhem S. and Tandon N., 2009). ICT exhibits are comprised of various dimensions (Wijeratne WAR in Goonawardena Chandra (ed), 1995 and VAPS (n.d.):

- 1) Technology that facilitates productivity of women
- 2) Technology that reduces drudgery of women
- 3) Technology that empowers women
- 4) Technology that eliminates hurdles to growth of women
- 5) Women's role in fields of technology
- 6) Familiarization of handling technology by women
- 7) Capacity in decision-making by women, in issues related to technology

- 8) Women's exposure to scenarios of technology at national and international levels
- 9) Gender sensitivity in aspects of technology

Further, as per the VAPS (n.d)report, a study of women enrolment at IGNOU showed that it was noticeably lower than the average enrolment at the national level, with women enrolling in courses pertaining to their work or home skills. The perception of technology associated with masculinity was so established that there was the obvious exclusion of women from technical education and subsequently technical jobs. Therefore, access to ICTs is vital for empowerment of women. And it becomes essential not only for the ICT infrastructure to be in place but it to be utilized optimally by the women.

In India, a developing country, the concept of workplace and its role in the lives of women is changing (Jain S., 2007). Jain S.'s study also reported studies of call centers of New Okhla Industrial Development Authority (NOIDA) and Delhi highlighting the lack of opportunity, burnout, women not being employed at the level of Business Process Outsourcing (BPO) and remained in basic levels not of managerial cadre. Women of India comprised 50 per cent of the ICT outsourced workforce, but made up only 21 per

cent of entire software professionals (Lipowiecka, J., and Tabitha K., 2016). The same report also highlighted that the move to entrepreneurship for women could be assisted by internet to secure finances for their businesses, mentoring and coaching, other resources and for information purposes. Though they could face challenges of ICT such as training, education, technological affordability, user relevant information, infrastructural aspects such as electricity, security and transport.

### Women Entrepreneurship, Tourism and ICT

Tourism involves a lot of stakeholders which includes the tourist, the host community, infrastructural support providers such as accommodation providers, transport providers at the attractions or providers of other amenities. Government and other ancillary services also form a part of the stakeholder list (Sikari S., 2018). The plethora of entrepreneurial opportunities available and that could be created are phenomenal. As per Sikari S., the tourism market is highly competitive, with changing patterns of travel and tourism demands leading to tabulating the various areas of entrepreneurship that could be explored in tourism.

**Table 1: Areas of Entrepreneurship (Sikari S., 2018)**

<b>Accommodation Sector:</b>	Hotels (Boutique Hotel, Heritage Houses, Theme Villages), Motels (Highway Amenities), Guest Houses, Bed and Breakfast Accommodation, Farm House, Home Stay
<b>Transportation:</b>	Airlines and Allied business, Car Rental, Specially arranged transportation for tourists
<b>Travel Services:</b>	Travel Agency, Tour Operator, Guide Service, Language Interpreter, Event Management
<b>Allied Industry:</b>	Handicraft / Souvenir, Entertainment like dance, Music, Show, Communication

Women in India have also forayed into the field of tourism entrepreneurship. The top five states in women entrepreneurship were Tamil Nadu, Kerala, Andhra Pradesh, West Bengal and Maharashtra (Sikari S., 2018). The areas or activities of these women entrepreneurs were travel agencies, homestays, car rentals, guide services and allied industries. Deepa Krishnan of Mumbai Magic;

Bhavana Agashiwala, Founder and Director, Columbus Travels; Veena Patil, Founder and Managing Director, Veena World and Jayanti Rajgopalan, founder of Detours India are some of the established names in the Indian context. In a study conducted on women micro-entrepreneurs of Navi Mumbai (Kadam A., 2015), 84% of the women were literate, showing that the fact was related



to an increase in the innovative and creative activities of these micro-entrepreneurial women. Out of this percentage, 10% had studied diplomas in tourism and hospitality. The same report also projected the lack of access to ICT in their businesses.

Women entrepreneurs surveyed in a research (Abraham S. and Rajesh Kumar C., 2017) on their beliefs for them to establish successful businesses in tourism, included reasons such as a greater requirement for self-employment, financial needs, flexibility, ICT access and their ability to multitask. ICTs were indicated as a potential source of business. In another study on women entrepreneurs of Ahmedabad and Vadodara in the state of Gujarat (Junare S.O. and Singh R., 2016), the women entrepreneurs in tourism businesses lacked the technological skills, had poor knowledge of modern technology and did not use technology in their businesses. Though women micro-entrepreneurs in North-Eastern India were set to benefit from the partnership between National Commission for Women and the hospitality company Airbnb (Gupta P., SheThePeople.TV, 2018). Airbnb, as a company is community-driven and offered technology-based opportunity for these women to earn their livelihood. A study involving integration of mobile technology with the sector of tourism in terms of service efficiency, value addition being offered and provision of flexibility (Sastry G.V.R. and Sushil, 2018) exhibited that service efficiency rates were rated high amongst women. The data for this research was collected from all the states of India. The women strongly vouched for mobile applications to be integrated into tourism.

ICTs like the internet, computers and mobile phones aid in growth of business and were able to overcome issues that particularly affect women entrepreneurs more than men. Women could optimally utilize the ICTs available to them, positively affecting their businesses. Women entrepreneurs are vital for the development of tourism in the country or specifically for those regions of the country that promote tourism business (Kumar D., 2014). Availability of ICTs thus plays a major role for foray and continuity of women into tourism entrepreneurship.

### **Methodology of the study**

The research involved both primary and secondary sources. Primary sources involved using a structured questionnaire. Goode, Hatt and Paul (1952) defined a questionnaire as “a device for securing answers to questions using a form which the respondents fill it”. The questionnaire was distributed to 54 women entrepreneurs in tourism businesses in Delhi NCR for a month.

The research questionnaire comprised of the first section consisting of questions regarding the entrepreneurs' classified data i.e. personal information. The second part was designed to assess the business characteristics of the women entrepreneurs of Delhi NCR. In the third phase, the importance and contribution of ICT in different stages of their businesses, that were - starting up phase, managing phase and the growth phase were assessed and the issues faced and the support required were determined. Percentage analysis method was applied for the creation of contingency tables from the distribution of frequencies for representation of the collected data. This was done for a better understanding of the data collected.

### **Limitations of the Study**

- The study was conducted on women entrepreneurs in hospitality and tourism only;
- The area of study was limited to Delhi NCR only;
- The time - span of the study was a month only.

### **Research Findings and Analysis**

This section summarizes the results of the survey of the women entrepreneurs who own hospitality and tourism businesses in the urban area of Delhi NCR. It explores the reasons for them to own their own business. In addition to business characteristics highlighting the sub-sector of operation, the premises from which the business operates, the type of business ownership and the number of employees that form their teams was also studied. This exhibits the extent to which these businesses consider ICT to be an important part of their work.

### **Demographic Analysis**

Women entrepreneurs owning tourism and hospitality businesses within the age bracket of 30-39 formed the

majority (51.9%) amongst the respondents followed by women entrepreneurs between the ages of 40-49 (38.9%). Maximum respondents were married (75.9%). This data highlighted the aspect of beginning of the entrepreneurial journey of mid-career professionals, majority of whom embarked on the business after their marriage. This also shows that women considered their economic freedom to be important after getting married and hence found tourism and hospitality businesses to be lucrative. The level of education of the women entrepreneurs of hospitality and tourism comprised of a master's degree as a majority (51.9%). Interestingly, only 1.9% held a vocational qualification. Vocational qualification had been defined as “education designed to develop occupational skills”

(Ministry of Labour, Jordan, 2005). In the context of hospitality and tourism, vocational qualification included the development of specific skills in the areas of hospitality and travel that ensured the employability of such graduates (Busby, 2001).

64.8% of the women entrepreneurs were employees with private organisations before embarking onto tourism and hospitality businesses. This infers that these women were apt at knowledge of entrepreneurial skills and ICT due to their previous job profiles. It is evident that this knowledge had aided in the evolution of their present tourism or hospitality business.

**Table 2: Tabulated representation of demographic analysis of respondents' profile (self-constructed)**

S.No.	Age	Frequency	Percentage
1	18-29	4	7.3
2	30-39	28	51.9
3	40-49	21	38.9
4	50-59	0	0
5	60 and above	1	1.9
	Total	54	100
S.No.	Marital Status	Frequency	Percentage
1	Single	41	75.9
2	Married	13	24.1
	Total	54	100
S.No.	Highest Level of Education	Frequency	Percentage
1	High School	4	7.3
2	Bachelors	21	38.9
3	Masters	28	51.9
4	Doctoral or Postdoctoral	0	0
5	Vocational	1	1.9
	Total	54	100
S.No.	Previous Occupation	Frequency	Percentage
1	Running another business	8	14.8
2	Employee with a private organisation	35	64.8
3	Government employee	0	0
4	Homemaker	10	18.5
5	Student	1	1.9
6	Unemployed	0	0
	Total	54	100

S.No.	Reasons for Having Own Business	Frequency	Percentage
1	To be my own boss	22	40.0
2	To be financially stable	5	9.3
3	To achieve more flexibility due to family reasons	13	24.1
4	Couldn't find another job	0	0
5	Unskilled for any other employment	0	0
6	Create a social impact through tourism	1	1.9
7	Follow my passion	1	1.9
8	Retired	1	1.9
9	To do something else with the rest of my life	1	1.9
10	To attain independence of my time and my ideas	1	1.9
11	Want to create a brand for my kids in the food industry	1	1.9
12	To spend time with the kids	1	1.9
13	To pursue own ambition and passion	1	1.9
14	Childhood dream	1	1.9
15	Fulfilling my desire to do something innovative	1	1.9
16	Had a passion and desire to do something different	1	1.9
17	To follow my passion of cooking	1	1.9
18	To fuel my passion to travel more	1	1.9
19	To follow my passion and derive financial stability from that	1	1.9
	Total	54	100

Survey results also show that the reason for women of Delhi NCR to venture into entrepreneurship was primarily to own a venture of their own (40%) followed by the reason of acquiring flexible hours due to family commitments (24.1%). ICT also was an enabler for women to achieve this flexibility in their business operations by allowing them to operate from anywhere. This led to the maintenance of work-life balance for the women entrepreneurs. Achieving financial stability (9.3%) was cited as the next strong reason by women of Delhi NCR to have established their tourism and hospitality-related businesses. Interestingly, almost all other reasons were given equal weightage by the rest of the women entrepreneurs (1.9%). These reasons included creating social impact through tourism as a business, spending time with the kids, fulfilling one's desire to do something creative, following one's passion for cooking etc.

### Business Characteristics

According to Dicksee L.R.(1980), business was a form of any activity carried out with the aim of earning profits for the larger benefit and on behalf of people for whom the activity is conducted. Dicksee elaborated that the characteristics or features of a business include exchange of goods and services, profit as the main objective, business skills, production, marketing and distribution of goods etc. For the purpose of this study, the sub-sectors of tourism and hospitality in which the women entrepreneurs' businesses operate, premises of operating the business, type of business ownership and number of employees in the business have been taken into consideration.

Amongst the 54 women entrepreneurs who were surveyed as part of this research in Delhi NCR, thirty-eight were owners of restaurant and catering businesses (70.4%), eight

owned travel agency or tour operating businesses (14.8%) and the rest of the percentage was distributed between suppliers of tourism services (3.7%), hotels (1.9%), home bakers (1.9%), consultancy business (1.9%), chocolatier

(1.9%), bakery owners (2.8%), handicrafts and souvenirs and ICT related services. No entrepreneur surveyed owned a business related to ICT services for the hospitality and tourism sectors.

**Table 3: Business characteristics (Self- constructed):**

S.No.	Subsector of business operation	Frequency	Percentage
1	Restaurant and catering	38	70.4
2	Hotels	1	1.9
3	Travel agency/tour operator	8	14.8
4	Supplier of tourism services	2	3.6
5	Handicrafts or souvenirs	0	0
6	ICT related	0	0
7	Homebaker	1	1.9
8	Consultancy	1	1.9
9	Chocolatier	1	1.9
10	Bakery	2	3.6
	Total	54	100
S.No.	Premises of operating the business	Frequency	Percentage
1	Own home	33	61.1
2	Owned commercial property(eg: shop in a mall, hotel, factory etc.)	5	9.3
3	Leased commercial property	14	25.8
4	Informal premises(friend's home, park etc.)	0	0
5	Digital	1	1.9
6	Rented home	1	1.9
	Total	54	100
S.No	Type of business ownership	Frequency	Percentage
1	Single ownership	44	81.5
2	Single partnership	3	5.5
3	Multiple partnership	5	9.2
4	Private limited	2	3.8
	Total	54	100
S.No.	No. of employees in the business	Frequency	Percentage
1	0-10	49	90.7
2	11-50	4	7.4
3	51-100	1	1.9
4	Over 100	0	0
	Total	54	100

Most of the entrepreneurs operated the business out of their own homes (61.1%) or on leased commercial property (25.9%) as exhibited in the table above. The type of business ownership was primarily single ownership (81.5%) and the number of employees in the business for

most of the entrepreneurs remained within 10 (90.7%).

## **B) ICT and Business**

### **C1 – Use of ICT in Business Activities of Women Entrepreneurs of Tourism and Hospitality of Delhi NCR**



Women entrepreneurs of urban areas were more apt in the usage of technology vis-a-vis rural women (Press and Information Bureau (PIB), Ministry of Skill Development and Entrepreneurship, Government of India, 2019). According to PIB, a program and an initiative such as Skill India by the Government of India was an instrument for participation of women in technological roles identified with the new age, propelling them to utilize ICT to the fullest. This, combined with the entrepreneurship aspect of the urban women and along with government initiatives such as Livelihood Business Incubation (LBI), will be useful to promote women entrepreneurs (ibid.).

Searching for customers and suppliers–Suppliers, such as travel agents, tour operators and hotels face a challenge of gaining identity amongst a large number of potential customers who come from plethora of backgrounds of income, needs, interests and knowledge (Farkhondehzadeh A., Karim M.R.R., Roshanfekar M., Azizi J. and Hatami F.L., 2013). Therefore, there arises a need to match the needs and expectations to the available choices.

Communication with customers and/or suppliers–ICT aids in real-time communication helping in exchange of information in a prompt and free manner building and strengthening collaborations, partnerships and relationships (Adobor H., 2002) between the entrepreneur and the customer and/or suppliers.

Networking with channel partners–Business transactions have been facilitated by ICT tools through creation of networks with partners in trade, creating new distribution channels in the process (Shanker D., 2008).

Training purposes–Focus on ICTs through training actions can support women's entrepreneurship (Pappas M.A. et al, 2017).

Product and/or services promotion and selling –Collaborative use of technology assists in the promotion and subsequent selling of tourism or hospitality products and services due to empowerment of tourists or customers to do so (Katsoni, 2011). Most of the initial information and deals occur over the internet.

Table 4 shows the Use of ICT in Business Activities of Women Entrepreneurs of Tourism and Hospitality of Delhi NCR.

**Table 4: Use of ICT in business activities of women entrepreneurs (Source: self-constructed)**

<b>Use of ICT in Business Activities of Women Entrepreneurs of Tourism and Hospitality of Delhi NCR</b>	<b>Most Used</b>	<b>Frequently Used</b>	<b>Moderately Used</b>	<b>Least Used</b>	<b>Not Used</b>	<b>Mean Score</b>
Networking with channel partners	10	13	19	9	3	3.33
Communication with customers/suppliers	21	17	11	4	1	<b>3.98</b>
Training purposes	2	7	23	15	7	2.67
Product and/or services selling	23	14	13	4	0	<b>4.04</b>
Product and/or services promotion	23	14	13	3	1	<b>4.02</b>
Searching for suppliers	11	12	17	11	3	3.31
Searching for customers	16	10	17	8	3	3.52

It was observed that the top three attributes were uses of ICT in business activities of “Product and/or services selling” with a mean score of 4.04, “Product and/or services promotion” with mean value 4.02 and “Communication with customers/suppliers” with a mean score 3.98. This

implied that use of ICT was expected to play a more pertinent role in business activities of product and services selling, promotion and communication with customers and suppliers over other attributes.

Table 5 shows the Use of ICT in Business Activities of Women Entrepreneurs of Tourism and Hospitality of Delhi NCR.

**Table 5: t-Test Application for Analysis of Use of ICT in Business Activities of Women Entrepreneurs of Tourism and Hospitality of Delhi NCR (Source: self - constructed)**

Sl. No.	Use of ICT in Business Activities of Women Entrepreneurs of Tourism and Hospitality of Delhi NCR	Mean score	t Value	Sig
1.	Networking with channel partners	3.33	2.936	0.002
2.	Communication with customers/suppliers	3.98	12.152	0.000
3.	<b>Training purposes</b>	<b>2.67</b>	<b>-2.504</b>	<b>0.008</b>
4.	Product and/or services selling	4.04	8.140	0.000
5.	Product and/or services promotion	4.02	6.282	0.000
6.	Searching for suppliers	3.31	2.307	0.012
7.	Searching for customers	3.52	4.551	0.000

After applying the t-test, it was analyzed that the most effective use of ICT was in “Product and/or services selling” and its least effective use was in the “training purposes” of Women Entrepreneurs of Tourism and Hospitality of Delhi NCR.

## **C2 – Attitudes of Women Entrepreneurs of Tourism and Hospitality in Delhi NCR Towards ICT**

Attitude has been defined by Eagly and Chaiken (1993) as “Tendency of psychological nature expressed by evaluation

of a particular entity with a degree of favour or disfavour”. In this study, an attempt was made to explore the attitudes of women entrepreneurs of Delhi NCR who own businesses in hospitality and tourism sectors towards personal aspects such as familial support, facing gender bias and having the same opportunity as men. This was to understand whether the aspects proved to be a barrier leading to limitations in accessing ICT and equipment or training in their respective entrepreneurial ventures.

Table 6 demonstrates the Attitudes of Women Entrepreneurs of Tourism and Hospitality in Delhi NCR towards ICT.

**Table 6: Mean scores for Attitudes of Women Entrepreneurs of Tourism and Hospitality in Delhi NCR towards ICT (Self-constructed)**

Attitudes of Women Entrepreneurs of Tourism and Hospitality in Delhi NCR Towards ICT	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean Score
Combining family life with work is difficult for me	3	13	15	13	10	2.74
There has been lack of finance as a start-up/ongoing entrepreneurial journey	8	17	16	9	4	3.30
I have faced gender discrimination as a woman entrepreneur	3	11	13	18	9	2.65
Government policies and regulations related to ICT support my business	4	11	27	9	3	3.07
Infrastructural issues of ICT (low internet speed, power unreliability, cyber security) are a challenge for my business	10	18	16	6	4	3.44
ICT is a hindrance in growth of the business	1	5	13	19	16	2.19
ICT related support services are widely and easily available to women entrepreneurs	9	21	20	3	1	3.63
Business requires an ICT upgrade to increase profits	9	16	20	6	3	3.41

<b>Attitudes of Women Entrepreneurs of Tourism and Hospitality in Delhi NCR Towards ICT</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>Strongly Disagree</b>	<b>Mean Score</b>
Staff requires more ICT skills to run the daily operations	7	15	17	10	5	3.17
Require more ICT skills to operate my business	8	17	19	9	1	3.41
ICT takes too much time in day-to-day operations not leaving time for other work	7	8	23	11	5	3.02
Better use of ICT can lead to better business decisions	26	17	8	0	3	<b>4.17</b>
Better use of ICT is required to enable women entrepreneurs to compete effectively in the tourism market	15	23	14	2	0	<b>3.94</b>
Women entrepreneurs in tourism have same opportunity as men to access technology.	15	16	16	3	4	<b>3.65</b>

It was observed that the three most important attributes of attitudes of women entrepreneurs of tourism and hospitality in Delhi NCR towards ICT were “Better use of ICT can lead to better business decisions” (mean score 4.17), “Better use of ICT is required to enable women entrepreneurs to compete effectively in the tourism market” (mean score

3.94) and “Women entrepreneurs in tourism have the same opportunity as men to access technology” (mean score 3.65). This interpreted that optimum and better usage of ICT was pertinent for making sound business decisions, aided in effectively stand against the competition and pointed towards gender parity.

Table 7 shows the Attitudes of Women Entrepreneurs of Tourism and Hospitality in Delhi NCR towards ICT.

**Table 7: t-T est Application for Attitudes of Women Entrepreneurs of Tourism and Hospitality in Delhi NCR towards ICT (Self-constructed)**

<b>Sl. No.</b>	<b>Attitudes of Women Entrepreneurs of Tourism and Hospitality in Delhi NCR Towards ICT</b>	<b>Mean score</b>	<b>t Value</b>	<b>Sig</b>
1.	Combining family life with work is difficult for me	2.74	-2.313	0.012
2.	There has been lack of finance as a start-up/ongoing entrepreneurial journey	3.30	3.720	0.000
3.	I have faced gender discrimination as a woman entrepreneur	2.65	-2.656	0.005
4.	Government policies and regulations related to ICT support my business	3.07	0.548	0.293
5.	Infrastructural issues of ICT (low internet speed, power unreliability, cyber security) are a challenge for my business	3.44	2.710	0.005
6.	ICT is a hindrance in growth of the business	2.19	-6.029	0.000
7.	ICT related support services are widely and easily available to women entrepreneurs	3.63	5.514	0.000
8.	Business requires an ICT upgrade to increase profits	3.41	3.504	0.000
9.	Staff requires more ICT skills to run the daily operations	3.17	-4.337	0.000
10.	Require more ICT skills to operate my business	3.41	-2.391	0.009
11.	ICT takes too much time in day-to-day operations not leaving time for other work	3.02	-5.007	0.000
12.	Better use of ICT can lead to better business decisions	4.17	2.460	0.007
13.	Better use of ICT is required to enable women entrepreneurs to compete effectively in the tourism market	3.94	1.168	0.122
14.	Women entrepreneurs in tourism have same opportunity as men to access technology.	3.65	-0.693	0.244

The analysis of t-test shows that according to women entrepreneurs of tourism and hospitality in Delhi NCR, better use of ICT can lead to better business decisions and at the same time, according to them, the use of ICT was less effective for them as government policies and regulations related to ICT support their business. Better use of ICT was required to enable women entrepreneurs to compete effectively in the tourism market and women entrepreneurs in tourism have same opportunity as men to access technology.

## Conclusion

The analysis of the results proved that ICT plays a major role in the businesses of women entrepreneurs of Delhi NCR. Women in India had forayed into the field of hospitality and tourism entrepreneurship and ICT was indicated to be a potential source for business. The demographic analysis of the study suggested that most of the women who operate their hospitality and tourism businesses in Delhi NCR were between the age bracket of 30-39, married and educated up to the post-graduate level. Most of the respondents were in employment with private organisations prior to establishing their businesses. The main intention of owning their own businesses lead them towards entrepreneurship. This data indicated that Delhi NCR being an established business area, the well-educated women chose it to establish their businesses to find the balance between work and family. To do so and sustain the businesses over a long period, the aid ICT has provided them was evident in the section of ICT and business.

Most of the entrepreneurs surveyed for this study in Delhi NCR found restaurant and catering businesses on a single ownership model more lucrative to operate. The premises of operations were their own homes and the number of employees was less than ten in number. For such entrepreneurs who are based in a cosmopolitan area of Delhi NCR, the use of ICT becomes imperative to network with the channel partners, communicate with the customers and suppliers, sell the products and services, search for customers and suppliers. This has been proved through the study. Majority of these entrepreneurs also disagreed that combining family life with work was difficult for them. This again could be attributed to the availability of ICT at

their place of work that made coordination with customers and suppliers efficient and management of other aspects easier. Very few were of the view that ICT was a hindrance to the growth of their business but would like the government to actively get involved in formulating and implementing policies for women entrepreneurs of hospitality and tourism. Women entrepreneurs of Delhi NCR into hospitality and tourism though were of the perspective that better use of ICT was required to enable them to compete effectively in the tourism market pointing towards the need for training. They believed that their staff and themselves require more ICT skills to operate their businesses and lead to better business decisions.

Based on the study conducted following are the suggestions to fill the existing gaps of optimum usage of ICT for the women entrepreneurs of hospitality and tourism in Delhi NCR. This is to make their businesses operate better:

- Women entrepreneurs and their staff needed to be trained in the required level of ICT advancing to further levels gradually.
- There is a requirement of better support from the government to formulate and implement policies with regards to ICT and its use for women entrepreneurs.
- Any new technology being innovated for the intended use of such entrepreneurs should consider the views of these entrepreneurs. Delhi NCR is a cosmopolitan and a much technologically advanced area that may require ICT that is different from other regions of the country. Hence, these women entrepreneurs and their staff may need to adapt to such technology too. Such technology should be able to integrate smoothly with other technologies of other industries or departments within their businesses too.
- Upgrading and updating of the ICTs from time to time with the latest technologies to increase the potentiality of the business.

Entrepreneurship amongst women in hospitality and tourism is booming in the region of Delhi NCR. Since most of them run their ventures from home, the role played by ICT becomes pertinent for them to prosper. Socio-cultural factors such as their high education played an advantageous role in understanding ICT as an entrepreneur. Business



growth also depends upon the integration of ICT with the business with the right selection and usage of ICT tools and training. Government contribution in terms of schemes, relevant policies and financial assistance for such women is also necessary. This study can be extended further by exploring the role of ICT and women entrepreneurs of other regions of India and comparative studies are also proposed. ICT is an area of rapid growth that could provide women entrepreneurs of a progressive industry such as that of hospitality and tourism, an opportunity to develop by leaps and bounds.

The study concluded that the most effective use of ICT was in “Product and/or services selling” and its less effective use is in the “training purposes” of women entrepreneurs of tourism and hospitality of Delhi NCR. Also, according to women entrepreneurs of tourism and hospitality in Delhi NCR, the “Better use of ICT led to better business decisions” and the same time according to them the use of ICT was less effective for them as “Better use of ICT was required to enable women entrepreneurs to compete effectively in the tourism market”.

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