Analysing Benefits and Challenges of Information Communication Technologies: A Study on Nagaland

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Abstract: This paper examines the status of Information Communication and Technology (ICT) in the state of Nagaland by using well-structured questionnaires and secondary data. The study had analysed the benefits and challenges of ICT covering the entire state. It is observed that although ICT had picked up well, there are many places especially in rural areas where ICT usage is still very low. There is no doubt that the use of ICT is contributing a lot to the uplift of socio-economic of the people but there is also a necessity of further improving the electronic public service delivery to citizens in a transparent, efficient, cost-effective and easy manner. In general, it is seen that the younger generation appears to be much more in favour of engaging ICT tools in their day to day work and while framing ICT policies more focus have to be given on the lower age groups so as to improve trust between citizens and government and between citizen and various institutions. The study also reveals that sincere efforts have been made to use the latest state of art technologies to take the state of Nagaland to the next higher level and the state is now fully aware of the benefits and challenges of ICT. The findings of this study shows that placing more emphasis on ICT can significantly speed up the overall inclusive socio-economic growth of the state and therefore more initiatives have to be taken to strengthen ICT so as to bring quick changes in governance and all other spheres of life.

Key Words: ICT, Nagaland, Benefits of ICT.

1. Introduction

Today, ICT is indispensable in all spheres of national life, in economic life, social and cultural development (Ali, 2020). ICTs can be used to interlink information technology devices such as personal computers with communication technologies such as telephones and their telecommunication networks (Akram et al., 2017). Bindu (2019) have defined ICTs as a range of electronic technologies which when converged in new configurations are flexible, adaptable, enabling and capable of transforming organizations and redefining social relations. ICT is rapidly changing our lives, the way we do business (Gaudio et al., 2020), access and communicate information with each other (Choudhury et al., 2019). Every government motto is to serve the citizens and ICT is now being effectively used by the government (state or central) in providing services to the citizens. Therefore, on the premise of citizen-
centric approach—where citizens are being treated as customers, ICT enables the government to provide improved service quality, which in turn enhances citizen satisfaction. Citizen-centric service involves designing of services from user’s point of view and the benefits have to be directly visible and translated into economic and social gains of the citizens. Thus, ICT can be used as a tool in enabling the government to reach all the citizens and act as a catalyst in development and apart from this, ICT can be used significantly as a means in combating poverty and fostering sustainable development through creating information-rich societies and sustainable livelihoods (Gangopadhyay et al. 2019). As per Jun, (2010), in order to develop a state especially in rural areas, we need to focus on poverty alleviation (Karanasios, et al., 2019), better livelihood (Kompella, et al.2017), improvement of basic infrastructure facilities and promotion of agricultural sector where rural economy is heavily dependent. Lee-Geille, (2019) emphasised upon the rising awareness amongst the citizens on government schemes and services, the demand for better delivery of services is increasing day by day and the time has now come to infuse Information and Communication Technology (ICT) to play a prominent role in strengthening such demand for better delivery of services. Information Technology (IT) today is becoming as important as water, bread, and air (Lalrochunga, et al., 2020). In the early part of 20th Century, people used to believe in the secrecy of information but in this 21st Century, the concept is totally reversed (Koutroumpis, et al., 2020). Now people like to share information and thus Information Technology is emerging as a powerful tool to improve socio-economic development. Experts in this field confidently predict that in future, poverty line will no longer be measured in terms of money, but in terms of information (Ghosh, et al., 2020). Therefore, emerging Information technologies can possibly be used to reduce information gap between the information rich and information poor to enhance productivity and improve quality and efficiency for all-round socio-economic development (Lee-Geille, 2019).

1.1 Objective

The following are the main objectives of this study:

- To analyse the present awareness level and benefits of Information Technology and Citizen Centric Services in the state of Nagaland.
- To study the possible role of Information Technology and other citizen centric services in improving socio economic development of the state.
- To ascertain the factors determining the role of Information Technology in socio economic transformation in the said region.

To suggest suitable policy measures to make Information Technology and Citizen Centric Services an effective tool for Socio Economic development of the study region.

1.2 Cooperative Farming and Renewable Energy

Both primary and secondary data has been used and the secondary data was collected from the publications of various organizations, and published journal papers of relevant topics. It is not possible to fulfill all the objectives of the study through secondary data alone and therefore, to fulfill all the aspects of the study, primary data have been collected by undertaking field study through two well-structured questionnaires and the status, benefits and challenges of ICT have been collected. For this study, the sample survey was conducted following random sampling. In this study, basic citizen-centric IT related services were selected for sampling survey. From each of this basic citizen-centric, IT related services, data has been collected from all districts in such a way that it captures the basic citizen-centric IT related services with variations and economic realities of the survey area.
The data was collected through the common service center (CSC) District Managers, who are dealing with both urban and rural citizens on Citizen-centric related matters in each District. Data thus collected were processed, tabulated and analyzed using simple statistical tools.

**Fig. 1.a: District wise sample survey of Nagaland state (Phase-I)**

**Fig. 1.b: District wise sample survey of Nagaland state (Phase-II)**

**Fig. 1.c. District wise survey participation of Nagaland (Gender based)**

The study of socio-economic scenario, the present awareness levels, benefits and challenges of ICT in the state of Nagaland has been studied. The survey data has been collected from all the districts of the state in two phases, the respective respondents is presented in graphical format in fig 1.a and fig 1.b. Similarly, the respondents were also maintained the gender equity while collecting the data from each districts of the state (fig 1.c).

2. **Current Status of ICT in the state of Nagaland**

In the state of Nagaland, e-governance is slowly growing and the Department of IT&C have started promoting effective use of e-governance tools. It is clear that the state of Nagaland is facing a set of
complex, multi-faceted and interdependent challenges which includes challenges like overcoming poverty, inequality, restoring peace, improving security, improving health, roads, education systems and so on. However, there are no single actor—let alone single departments or units that can effectively deal with such challenges on their own and therefore effective collaboration among various departments/ agencies across all levels of government is essential. As it is, with government and non-governmental actors, to ensure good governance and good development outcomes for the state of Nagaland, collaborative e-governance underpinned by a well-functioning public administration, is crucial to improving people’s lives in the state. Herein, all the government departments must deliver, equitably and efficiently, essential services that meet citizen needs, provide opportunities for economic growth, as well as facilitate citizen engagement and participation in public policymaking and service delivery, so as to promote the empowerment and well-being of all the people in the state. In general, the penetration of ICT and citizen-centric services has not reached the national level and there is also a disparity in the penetration in urban and rural areas. Also, some districts have better penetration than other and therefore in this study, all the 11 districts were taken into consideration and it was ensured that Responses were collected from both urban and rural areas.

The questionnaire was surveyed regarding the preference status amongst the citizens of the different districts of Nagaland. The preference was recorded on ordinal scales. The two parameters: ICT knowledge, and importance of ICT of different occupations were measured based on different questions from diverse segment of citizen. Fig. 2.a gives snapshot about the ICT knowledge of different districts. On the ICT knowledge, very few respondents given opinion about weak ICT knowledge. Majority have agreed upon having good ICT knowledge. Amongst all districts it was found that district like Mon, Dimapur have outperformed in this ranking. Similarly, fig 2.b has focused on importance of ICT knowledge over various occupations summarised.
It has also reflected very nominal group of people with negative response importance of ICT. However, amongst all occupations, students have prioritised their importance of ICT as compared to all other occupations. Professionals and self-employed personnel have also shown a positive trend in accepting ICT in their occupations. The view of all other occupations have also shown inclination towards adopting ICT knowledge in their fields. ICT has been perceived as indispensable tool for the holistic development of the individual citizen. Moreover, due to interdependency nature also they are also getting motivated in adopting the modern tool.

3. Benefits of ICT in the context of Nagaland

Palvia, et al., (2018) have emphasised upon the role of ICT in socio-economic development of the region. It can help in new process of manufacturing, social bondage, as well as in the distant learning for bridging the knowledge gap. Especially, utility services like the banking facility have been improved a lot due to introduction of ICT (Gaudio, et al., 2020). Financial transaction, and other supporting elements of production and distribution also foster the scope of entrepreneurship (Millán, et al., 2019).

![Fig. 3: Survey summarized results of Benefits of ICT in Nagaland](image)

To measure the benefits of the ICT in the state of Nagaland, five different parameters were considered: economies of scope, social networking, financial sustainability, e-learning, and e-banking. The responses were recorded in the five scale tool, with lowest one as ‘strongly disagree’, and best one is ‘strongly agree’. Majority of the respondents as shown in fig.3, has given consent of ‘agree’ in all the five factors of benefits. However, financial sustainability and social bondage still need attention. The respondents have mostly limited their response either ‘agree’ or ‘neutral’. Respondents further negligibly preferred to ‘disagree’, ‘strongly disagree’, as well as ‘strongly agree’. Hence, further confidence build up would definitely result in citizen migrating towards the preference of ‘agree’ towards ‘strongly agree’.

4. Challenges of ICT and Initiatives of Nagaland government

Meijer, (2015) highlighted various barriers in adopting ICT as a result of which the full benefits of the e-governance is not harnessed by the citizens. The barriers of the ICT adoption is region specific, hence the appropriate appraisal of the scenario can be helpful for any government to overcome such hurdles (Moghaddam, et al., 2013). The socio-economic development in the present era is dependent on the customized adoption of ICT (Tambotoh, et al., 2015). Poncian, (2020) has also emphasized the role of ICT for the citizen empowerment in implementing all the schemes. In the developing country like India also emphasized in the different process of overcoming the same (Rao, 2009).
Fig 4.a: Dr Arvo Ott, Executive Director, e-governance Academy of Estonia delivering lecture during Training on e-governance with state Departmental IT Nodal Officers.

Fig 4.b: Dr Liia Hanni, former Minister and Chairman Constitution Drafting Committee of Estonia delivering lecture on e-governance to state Cabinet.

Fig 4.c: Shri T.R. Zeliang, Hon'ble Chief Minister, flagging off eMarathon on 3rd July 2015 during Digital India Week.

Fig 4.d: Shri Pankaj Kumar, IAS, Chief Secretary, Nagaland during the launching of Biometric Attendance System for Nagaland Civil Secretariat.

Fig 4.e: Students and participants during the 1st e-Naga Summit, 2015 at NBCC Convention Centre Kohima.

Fig 4.f: Hon'ble Minister, IT&C, Chief Secretary, Nagaland, Director General STPI, Commissioner & Secretary, IT&C during the signing of MoU for setting up of STPI at Kohima, Dimapur.
The department of IT&C of Nagaland has introduced many initiatives to overcome the same. The one point solution has been devised through the state portal www.nagaland.gov.in. The electronic service facility of the state is rendered by Common Service Centre (CSC), e-district project. The department has performed some of the benchmark activities as listed below to boost up the confidence amongst its citizens:

Formulating State IT Policy.

- Inviting world leading key persons e-governance institute of Estonia for successful imparting of training (fig 4.a).
- Besides government officials, state government ministers were also trained by the e-governance Academy of Estonia (fig 4.b).
- State government proactive in implementing flagship ‘digital India’ program of union government (fig 4.c).
- Initiation of biometric attendance system for civil secretariat of the state government (fig 4.d).
- To popularize ICT among school students e-naga summit organized (fig 4.e).
- Setting up of software technology park of India (STPI) in the state (fig. 4.f).

5. Conclusion

It is observed that the growth of ICT and IT enabled services are still in initial stage in Nagaland and if necessary thrust is given it has all the potential of growing at a very fast pace. In general, it is making considerable impact on the lives of the people and people feels that the use of ICT is resulting to an impartial delivery of services. The general citizens are of the opinion that there is more accuracy in IT enabled services and the cost of service delivery is getting reduced. It is observed that there is considerable reduction in the cost of obtaining civic and other services and more ICT intervention can go a long way in minimizing the cost of availing citizen centric services. In general ICT initiatives are increasing service delivery and productivity and the use of ICT tools will improve job satisfaction. The citizens wants the government to invest more in IT enabled services to improve their overall livelihood and there is lot of scope for further research in this area.

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