A Prediction Model to Evaluate Impact of Workshop and Training Programs Activities to Stimulate Participants for ICT Usage and Resultant Awareness Index of Village Level Community

Kamal Kumar Ghanshala, and Durgesh Pant

***Abstract*—**Information and Communication Technology as we have witnessed and realized, has tremendous transformational prowess. The way Information Technology has changed the world ever since it came into existence, is truly amazing. The human society has been immensely impacted by the agriculture and industrial waves in its long journey but the information wave that swept across the planet in the 20th century, no doubt created an indelible mark on it. In this paper an attempt has been made to evaluate impact of workshop and training programs activities for ICT usage at village level.

***Keywords*—**ICT, e-governance, socio-economic empowerment

I. Introduction

INFORMATION and Communication technology (ICT) has proven as driver and stimulator for global economies. With explosion of computer and Internet usage, particularly in developing countries, it has become a significant part of economy and different sectors of human lives. New innovations of ICT are emerging and acting as catalyst to dramatically change the way people work and live. This transformation, despite of the many issues, challenges and practical obstacles of going e-connected , shows just how valued it is being able to connected through network community. It is increasingly recognized that ICT is necessary for accessing required information and knowledge (Richardson 1997; Chapman et al. 2004; Anandajayasekeram et al. 2008; McNamara 2009; Aker 2010). ICT kiosks, ICT-equipped intermediary organizations and mobile phones are expected to play an important role in strengthening the more complex and time-urgent pathways of information and knowledge-sharing on which socio-economic development depends [1]. However, the adaptation rates and penetration rate of technology among communities markedly differ between developing countries and developed countries which contribute for global digital divide. Developing countries face major obstacles in hooking up their population to ICT and the benefits it can deliver [2]. ICT requires infrastructure and connectivity but government budgets are limited and private investment in the sector is often deterred by outdated legislation, policies that block investment in and the use of new converging technology, the lack of intellectual property rights protection and ICT service market barriers [2]. All flavors of IT and ICT initiatives have potential to serve almost every section of human sustenance and survival. However, such access is much more common among the rich, and in the developed countries, than for the poor, or in developing countries [3]. The use of technology for dissemination of information can make a measurable difference in achievement, attitudes, and interaction of people at difficult geographies. IT can be an important tool for visualizing the importance of accessibility to information and to combat with complexity associated with connectivity, accessibility and service deployment in milieu. Taking note of the potential of e-Governance in improving the quality of life of the masses and the learning associated with earlier initiatives, the Government of India has come up with various national programs to be implemented at village level. Besides the central government, several state governments have also committed themselves to policies that deliberately aim to spread widely the benefits of IT, including the less privileged segments of society. As per government records, over 600 such services are already being delivered to citizens In India social, economical and geographical divides is huge challenge to proliferate the potential of IT initiatives for every individual in our society. As more information technology (IT) is deployed in governance, it is important to understand its impact on individual and governance productivity. In recent years, the relationship between information technology (IT) and productivity has become a source of debate. In our previous work [4][5][6] we have defined v-governance model, usability index [5], awareness index [7], of people in remote places for ICT usage which reflects the electronic engagement at the micro-level. In light of previous work, this paper aims to identify impact of participatory training programs on self-efficiency of participants and previously defined variables as awareness_index [7] at community level. Participatory training is learner−centred in that it recognizes values and seeks to

Prof. Kamal Kumar Ghanshala, President, Graphic Era University, Dehradun, Uttarakhand, India. (email id: kamalghanshala@gmail.com)

Prof. Durgesh Pant, Director, Uttarakhand Open University, Campus Dehradun, Uttarakhand, India. (email id: durgesh.pant@gmail.com)

http://dx.doi.org/10.15242/IIE.E0414017

build on the existing knowledge of trainees. By validating people's actual experiences of the world, participatory training enables them to formulate joint strategies for, and a commitment to, changing their immediate situation [8]. One strategic starting point for tackling the common problems in mounting awareness index of ICT usage in remote places hence development is the encouragement of a participatory and collaborative training of people about various flavors and potentials of technology. Within the broad framework of training activities which involve participants in acquisition of knowledge and skills through methods of active learning, the conducted training program planned to establish following milestones:

1. Enabling participants to identify access and analyze their own needs, problems, resources and knowledge domain.
2. Modeling principles and practices of collaboration for active participation of people through behavior and attitudes
3. Motivating participants in the identification, assessment, selection, adaptation and effective use of ICT efforts and plans.
4. Design a conceptual and practical set−up and process so that trainees can practice and apply newly acquired knowledge, skills and attitudes as soon as possible with appropriate steps, supervision, assessment and follow−up.
5. Establishing a participatory method of assessing and evaluating the success of the training at every stage.

II. Research Methodology

Pearson product-moment correlation coefficient is a statistical method which models the association between variables and represents the measure of the strength and direction of association that exists between two variables measured on at least an interval scale. In our case, we will find the nature and strength of association exists between training programs/ efforts and awareness level of users for ICT usage which will help to analyze the impact of training and workshops on ICT usage awareness level of users at project site.

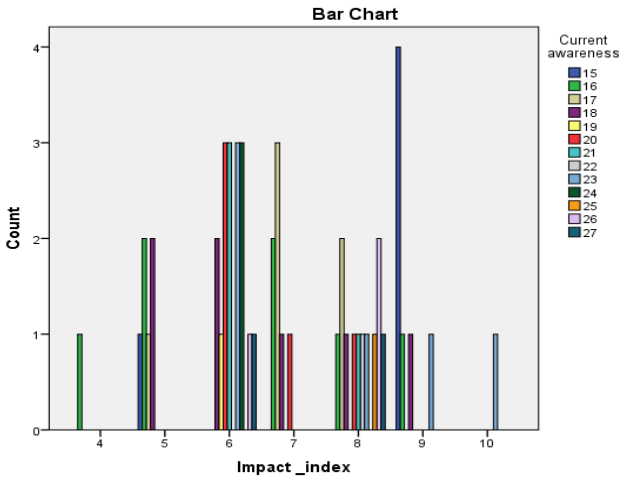

Fig.1 Bar Chart of Awareness

TABLE I
DESCRIPTIVE STATISTICS

	Mean	Std. Deviation	N
Impact _index	6.94	1.406	51
Awareness_level	19.75	3.627	51

TABLE II
CORRELATIONS

		Impact _index	Awareness_level
Impact _index	Pearson Correlation	1	.653
	Sig. (2-tailed)		.001
	Sum of Squares and Cross-products	98.824	.235
	Covariance	1.976	.005
	N	51	51
Awareness_level	Pearson Correlation	.653	1
	Sig. (2-tailed)	.001	
	Sum of Squares and Cross-products	.235	657.686
	Covariance	.005	13.154
	N	51	51

Results shows that the correlation between awareness level and impact of training programs, represented as impact index in our case, is .653, which is statistically significant ($p<.05$).

III. Conclusion

A structured framework for accessing training needs of people and motivating participants in the identification, assessment, selection, adaptation and effective use of ICT efforts and plans is required at project site. Current awareness level of people for ICT usage can be increased with adequate modeling of local circumstances and technical advancements. Success of e-governance plans is highly dependent on user's ability to use those policies for socio-economic empowerment. Hence, it is an urgent requirement to identify and establish a monitoring and evaluation framework to analyze the success and performance of e-governance policies and programs with respect to real time data.

References

[1] K.K. Ghanshala, Durgesh Pant, "IT-Initiatives for empowering difficult geographies: A Review", 35th International Conference on "Information Technology Interfaces" ITI 2013, June 2013, Cavtat, Croatia.

[2] K.K. Ghanshala, Durgesh Pant, "A new model for Governance: Village e Governance", 5th International Conference on Data Mining and Intelligent Information Technology, June 2013, Jeju Island, Republic of Korea.

[3] K.K. Ghanshala, Durgesh Pant, "A Study to Identify the Factors Involved in the Conceptualization and Execution of Mountain IT-Initiatives: Janta Portal", International Conference on Information Technology and Computer Systems Engineering (ITCSE'2013), November 2013, Johannesburg, South Africa.

[4] K.K. Ghanshala, Durgesh Pant, "Associative Informatics: An approach shift to address growing technological demand", International Journal of Computer and Communication Engineering, Vol. 2, No.4, July 2013, pp.526-529.
http://dx.doi.org/10.7763/IJCCE.2013.V2.241
[5] K.K. Ghanshala, Durgesh Pant, "Awareness-Usability Issues in IT-initiatives for difficult geographies", International Journal of Computer Science Issues, Vol. 10, Issue 2, No. 2, March 2013, pp. 26-30.
[6] K.K. Ghanshala, Durgesh Pant, "A Gaps approach to access the efficiency and effectiveness of IT-initiatives in rural areas: case study of Samalta", International Journal of Advanced Computer Science and Applications, Vol. 4, No. 2, 2013, pp.245-250.
[7] K.K. Ghanshala, Durgesh Pant, "IT-Initiatives for difficult geographies: Roadmap to successful conceptualization and execution"International Journal of Computer Science Engineering, Vol. 2 No.01 January 2013.
[8] K.K. Ghanshala, Durgesh Pant, "Redefining IT-Initiatives in Difficult Geographies (A Case Study of Uttarakhand, a Hill State in the Central Himalayan Region in India, Asia)"International Journal of Computer Applications (0975 – 8887), Vol. 63, No.3, February 2013

Prof. K.K. Ghanshala is the chairman of Graphic Era University, Dehradun, the capital of Uttarakhand, India. He founded Graphic Era in the year 1993 as one of his bold ventures towards providing quality educational inclusion to the society at large and people living in difficult geographies in particular.

Dr. Durgesh Pant is Professor of Computer Science, Department of computer science at Kumaun University, Nainital, Uttarakhand which he founded way back in 1989. Presently, he is working as Professor and Director of the School of Computer Science & IT at Uttarakhand Open University, Campus Dehradun, India. To Prof. Pant's credit goes the distinction of taking computing & informatics to its present level in this part of the world.