

Insight into the Community Science and its Interaction with Information Science and Technology: *A Socio-Techno Perspective*

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Abstract

Community is nothing but the group of people having common identity. It is a fact that, in-general community refers to group of people or human being residing in a specific place. In the community sharing of ideology, thought etc play a lead role. It is a fact that the progress of technology and engineering has created a new type of community. These are—*virtual community or online community*. In simple terms, *community* may be deemed as an organism inhabiting a common environment in addition to interact with one another. Community development is the mechanism, concept and way to plan and modernize for complete development. Societal communication, organizational communications are also important for overall community expansion. Few aspects such as economic situation, awareness of political affairs, education and training etc are also important and most vital factors for community development as well as management. The Science and Technology which are closely related with the Community may be called as Community Science and Technology. However, the subjects of Applied Science and Engineering in concentration with community focus may also be treated as Community Science and Technology. This is a conceptual paper and it deals with several facets of Community Science and Technology including basics of community. The aim of this paper is to highlight and explore the aspects of Community and some of the related and allied facets.

Keywords: Community, Development, Community Development, Community Science, Rural Technology, Online Community, Educational Programs

CST or Community Science and Technology is an emerging Applied Science domain dedicated to societal change and community development through the proper utilization of Science and Technological tools. Though, it is important to note that, CST as an individual course or dedicated course is not so much popular or not available around the world and even in India. Usually community treated as settlement larger than a small village that share common value, thus CST may be defined as a subject responsible for and dedicated to a group of community or group of societal people.

Today, information and communication technology plays a valuable and vital role for complete societal development with proper substantiality and for helping proper communication in the community and group of people. Virtually, science and technology are the prime mover of society; hence we need to develop the concept and utilization of community science and technology for further development.

Objective

The core agenda of this conceptual paper includes several aspects of community and development studies and that include but not limited to—

- ❖ Learn about the Community and its basic meaning including features and characteristics in brief manner.
- ❖ Dig out the aspects of Community Science and its basics features in general context.
- ❖ Know about the role of Community Science and its role for development and progress.
- ❖ Find out the potentialities of Informatics in respect of Community and Social Development.
- ❖ Learn about the possible areas which may be defined as Community Science and Technology.

The paper is also highlighted the emerging domains and areas which may be treated as Community Science and Technology. The paper tries to explore the basics of Social Computing, Social Informatics etc which may be treated as an important interdisciplinary area of Community Science and Technology.

What is Community Science and Technology?

It is very difficult to define Community Science and Technology (CST), it is actually a subject that deals with several Science and Technology related subjects and affairs on community concentration. However few other subjects may also be treated as Community Science/ and or Technology viz. human development, family relations & management, food science & nutrition, family resource management, textile and clothing, microbiology, agriculture, mass communication, rural development, ecology and environment science, sustainable development, communication, population studies, disaster management, area and strategic studies, food science (Refer Fig: 2). There is a potentiality to offer Community Science and Technology related programs in the humanities and applied science related departments in most of the universities around the world having concentration on community specific nature. Community Science and Technology (CST) programs etc are possible to offer both at Bachelor and Masters Degree level. However Community Science and Technology has huge potentialities at Doctoral level.

Community Science and Technology (CST) and Development

Social and community development and more importantly their enhancement are most valuable for Community Science and Technology (CST). Any program with community concentration plays an important function in favor of complete and healthy sustainable development. Some of the subjects such as Food Science, Nutrition, and Home Science which are directly related with the community and similar affairs may also treat as Domains having Community Science nature.

Whether Social or Economical, some community centric subjects (computing and information related) viz. Information Sciences, Information Science and Technology, Social Computing, Social Informatics; directly as well as indirectly helps in better and healthy Information transfer thus it has been offering opening of several aspects and perspectives of social and economical development. *Fig: I here expressed the fundamental aspects of Science and Technology with Community Science nature.*

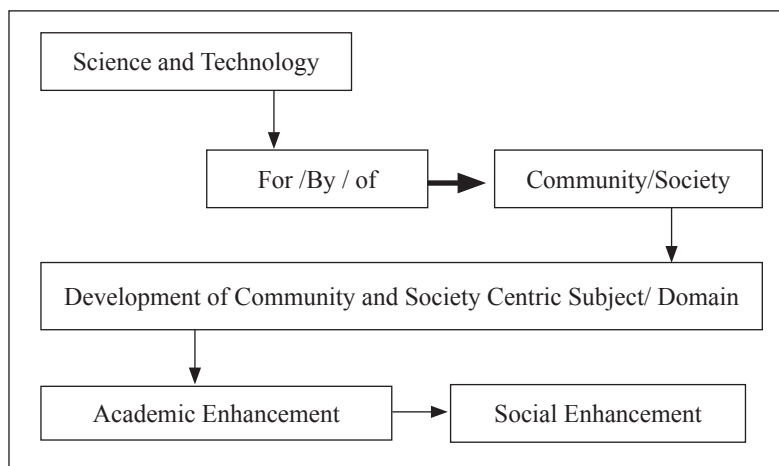


Fig. 1: The basics of Community Science.

Community is a kind of settlement which is bigger than that of a small village sharing and expressing common ideas, views, issues etc. In several aspects science, technology, management etc have played a vital role for better community enhancement as well as complete development.

In some science as well as technology areas also community and societal development play a vital role and that include *Food Science, Home Science, Textile Designing, Renewal Energy Science, Rural Development, Agricultural Science, Horticultural Science, Fisheries* and so on.

Community Science and Interaction with Informatics

‘Interaction and intersection’ both are valuable name in community informatics, it has the potential role in collection, selection, organization, processing and management of information. Community informatics or Social Informatics whatever is offered technological backup for better and healthy community development with the help of information transfer as well as access. Promotion including awareness of digital media as well as technologies within the surrounding of community is very much important. Thus it is removing digital divide as well as information divide in many cases. It is a prime policy for any kind of developed country and consciousness towards its advance strategies.

It is very urgent as well as important that Community Informatics along with other similar aspects normally deals with technical and technological support for its better promotion to build a healthy information transfer. However methodologies are also very imperative aspects for the creation of sophisticated community informatics design.

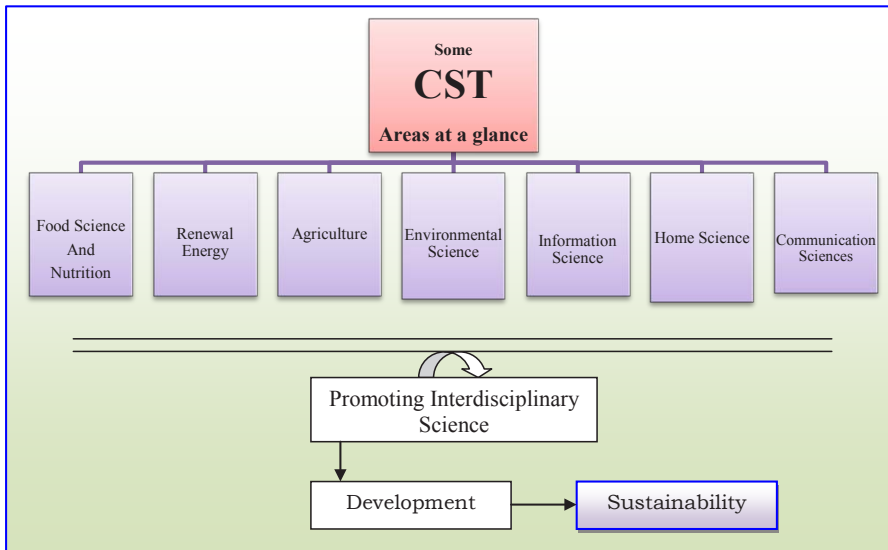


Fig. 2: Some domains having Community Science and Technology attributes.

The intersection and interaction of Society as well as Computing has been created the concept and field of Social Computing and Social Informatics. It is important to note that both have originated from the similar or allied fields such as—

- ❖ Computer Science.
- ❖ Psychology.
- ❖ Cognitive Science.
- ❖ Information Science.
- ❖ Social work.

Moreover it deals with many innovative and commercial applications which include web 2.0, social networking, TV (Cable & Online), Blogs, Email, internet, information kiosk etc. Here *Fig: 2- Depicted some domain and field of Community Science and Technology with Information Science.*

Social Informatics (SI) is the practice of design and development of Information Systems for the social development and development for the common masses. Social Computing and Computing and related tools are very common however in case of Social Informatics it is elective. Some of the common aspects of these fields are computing, networking, web development, information and content and importantly manpower in this field is treated as Information Scientist, Social Engineers, Information brokers, Technological Gatekeeper, System Analyst. Some of the aspects of Social Informatics and Community Informatics which are similar—

- ❖ ‘*Society*’ - Social Computing and Social Informatics, both are dedicated to the easy computational system. And ultimately these are responsible for the societal development whereas Social Informatics is dedicated to few other aspects which includes designing as well as building of

information rich society by adequate information infrastructure building.

- ❖ Key stakeholders of both the fields are common i.e. People or Community for the promotion of digital humanities.
- ❖ Healthy cognitive along with psychological studies are important matter in both the areas to get user demand as well as requirements. These needs may be related with the technological requirement or information/ contents.
- ❖ Handling both Social Computing and Social Informatics practices needs some interdisciplinary skilled professionals who need to aware and habituated in information and technologies.
- ❖ Computing and information, these are related with the *Social Informatics and Social Computing* but computing is directly related with the Social Computing. Regarding Social Informatics it is indirectly related to Social Informatics and also related with Social Computing. Virtually both the Computer as well as Information depends on each other.
- ❖ Social Computing and Social Informatics utilization no doubt helps in better and healthy information infrastructure building and ultimately removing digital divide.

Future Potentialities & Community Science

In today's age of information and computing, Information Science is most important vital name. Information Science is the academic domain with practicing nature for the creation of better information transformation or Information Transfer Cycle for complete information culture. Information with technological solutions are the core agenda for Information Science/ IST. It is worthy to note that information and technology both are provided by Information Science for many decades to the community and society. Information is a valuable entity and resources for almost all the areas which include the business, commerce, trade, education, mass communication, public administration. Information Science is also responsible and dedicated for the better and healthy communication among the people of the society and community. It ultimately helps in building of Information Economy for the improvement of communication and transparency. Here, *Fig: 3- Depicted the role f Information Science as CST to ultimate development.*

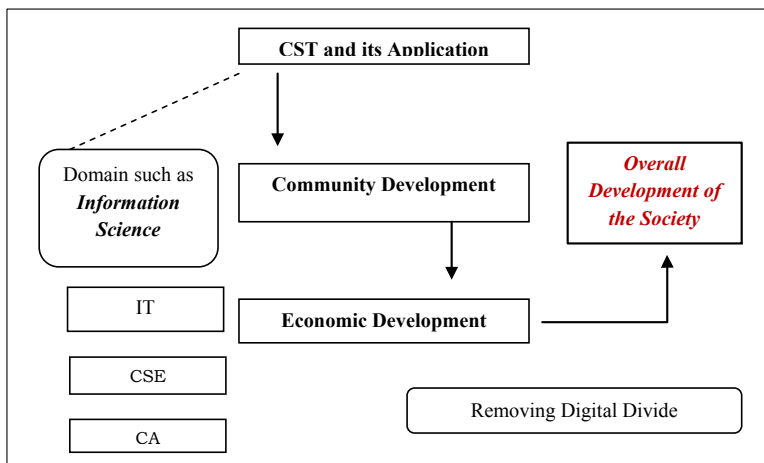


Fig. 3: Information Science and Technology in CST for development.

Progress and better interaction among the communities is treated as community development. Here proper planning; proper roadmap and forecasting are also the urgent requirements for better community development. Economic development, social awareness, educational progress are practically responsible for better community development and here information is the lead facet and tool in almost all cases. Economic Development also depends on Information Transparency and available information on business related matters viz. behavior judgment of consumer, market, product design, business strategies, e-commerce etc. As far as education is concerned information also plays a lead role in design as well as development of new course, curriculum. For each and every case study use information and knowledge play a vital role. Moreover, educational facets like to find out study option including what and where to study (*and about some other features of the events such as mode of study, placement opportunities etc*) may also be possible to learn only with structured information. Thus here wider uses may be find out of information science.

Suggestion

- ❖ It is important and most valuable that for better and healthy development of Information Science and Technology several aspects on Community Science or Community Science and Technology must be associated.
- ❖ Community Science and similar programs must be added in the course catalogue of the Higher Educational Institutes.
- ❖ Science, Engineering and Technology Programs may be integrated with Community Science and Technology gradients for its better results and solid promotion.
- ❖ Enhancement of Social Computing and Community Computing etc for better and healthy development which includes removing Digital Divide, Information Divide etc.
- ❖ Creation of Digital Information Infrastructure is important and valuable for building a true Digital India *and* here program enhanced with Community related affairs may offer greater mileage.

Conclusion

Community development in general may be treated as a development of several kinds that includes economic development, educational progress, mass communication etc. Importantly for each and every respect information depends on better information and knowledge transparencies. Apart from these Information Transfer Cycle is possible with healthy advance Information Technology service. Here with the help of technologies (community or society centric) upliftment of society and community are possible very easily. There is a potentiality to offer Community related programs in the humanities, applied science and similar department. In many international universities concentration on community in different programs are increasing rapidly. The success of Information Science and Technology is only possible when it should have direct societal benefits and enhancement.

References

1. Abeysekera, I. and Guthrie, J. (2004) "How is intellectual capital being reported in a developing nation?", in *Research in Accounting in Emerging Economies*, Supplement 2: Accounting and

Accountability in emerging and transition economies, Page 149-169.

2. Agarwal, Suren, (1989) "Development of Documentation in India: Social Science Information", New Delhi, India: Concept Pub. Co. Page 331.
3. Gieryn, Thomas F. "Boundary-work and the demarcation of science from non-science: Strains and interests in professional ideologies of scientists." *American sociological review* (1983): 781-795.
4. March, S. T., & Smith, G. F. (1995). Design and natural science research on information technology. *Decision support systems*, 15(4), 251-266.
5. Paul, Prantosh Kumar, Dipak Chatterjee (2012) "Cloud Computing and Green Computing: Challenges and Issues in Indian perspective" in *Asian Journal of Computer Science and Technology*, 1(2), 50-54.
6. Paul, Prantosh Kumar (2013a) "Information Science and Technology [IST] and its comparison with Information Technology and Social Computing" in *Abhinav National Journal of Science and Technology*, 2 (3), 17-25.
7. Paul, Prantosh Kumar (2013b) "Service Science Nature in Information Science: Overview" in *Abhinav National Journal of Commerce and Management*, 4 (2), 176-181.
8. Paul, Prantosh Kumar (2013c) "Community Science and Technology [CST] From Meaning to possible Areas and Facet at a glance" in *Abhinav National Journal of Arts and Education*, 2(3), 13-18.
9. Paul, Prantosh Kumar (2013d) "Social Computing and Social Informatics: The stakeholders of Knowledge Society emphasizing similarities and dissimilarities at a glance" in *Abhinav National Journal of Science and Technology*, 2 (4), 25-32.
10. Paul, Prantosh Kumar, K Kumar, D Chatterjee (2013) "Information Visualization: The way of Visual representation of data and information – The healthy information practice" in *IEEE sponsored proceedings of National Conference on Information and Software Engineering*, 127.
11. Tyler, J. R., Wilkinson, D. M., & Huberman, B. A. (2005). E-mail as spectroscopy: Automated discovery of community structure within organizations. *The Information Society*, 21(2), 143-153.
12. http://en.wikipedia.org/wiki/Information_infrastructure
13. http://en.wikipedia.org/wiki/Information_architecture
14. http://en.wikipedia.org/wiki/Information_systems
15. http://en.wikipedia.org/wiki/Global_warming

