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Participation of Women in *Panchayat Raj* Institutions: A Step towards Inclusive Governance

SHRUTI I.L

Abstract

The 73rd and 74th constitutional amendments opened up the governance structures in Panchayat Raj Institutions and urban local bodies to women, by reserving 33 percent of the seats for them. In fact it was the first step towards gender inclusive governance. Though India has had a long tryst with Panchayats, women were not represented in these governing bodies for centuries. In fact it was the state of Karnataka that took the lead in setting special spaces for women in PRI institutions. It was the Karnataka Zilla Panchayat, taluk Panchayat Samiti, Mandal Pnanchayat and Nyaya Panchayat that paved the way for the 73rd and 74th constitutional amendments. The entry of women into power politics that was facilitated by the 73rd and 74th constitutional amendments no doubt gave them a voice and visibility in the decision making process, but the path of power was strewn with many hurdles that included a change resistant patriarchal value system, the reluctance on the part of male politicians to share power and interference of male members of their families. But many women PRI members have taken the initiative to introduce proactive measures that have especially tried to address issues that are of special relevance to women. This article brings to light the need and significance of a gender inclusive governance policy and how it could empower women.

Key Words
Panchayat Raj, Inclusive Governance, 73rd and 74th Constitutional Amendments, Women's Empowerment

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INTRODUCTION

The whole world is witnessing a revolutionary change in the pattern of governance, aptly described by academicians and activists as democratic decentralization. The most visible symbol of this process of decentralization is the breakdown of gender hierarchies. The doors of democracies are opening up for women in different parts of the world in different proportions and ways. Experiments of redistribution of power are happening across the world. India has been witness to such a revolutionary change and has attempted to establish a model that is globally replicable.

In the true sense of the term democratic decentralization means that opportunities are created for meaningful participation by different groups in a given society. Development is possible only when political institutions become inclusive (Acemoglu and Robinson, 2012). Democratic decentralization also envisages redistribution of political power. In human societies characterized by racial, caste, gender and class hierarchy power is also generally concentrated in the hands of the elite. This system perpetuates itself and keeps the marginalized and vulnerable communities in a constant state of dependence. Though democracy is projected as a participatory system of governance giving 'voice' and 'visibility' to people, their participation to a large extent is limited to casting their votes in elections, but the leaders are generally from the advantaged groups, the most excluded group being women.

If democracy is to assume real meaning it should make way for inclusive governance.

In theory democracy ensures the right of equal participation to all groups in a society. But in reality many groups are excluded from the governance process. What then is inclusive governance? It "represents the extent to which Governance Institutions provide 'space' to overcome the systematic exclusion of disadvantaged groups seeking to participate in decision making, affecting them" (Making democracy Real Dialogue, 2013). This is especially true of vulnerable sections in our society, among whom women are in the fore front. Women constitute nearly half the population of the world and a system of governance that does not include them and issues that are relevant to their lives is no true democracy.

Women's Political Participation as a Gateway to their Empowerment

A real democracy can emerge as an inclusive system only when it gives equal access for participation in the decision making process to all groups. An inclusive system of governance is one that gives meaningful representation to voices that have hitherto been deprived of access to opportunities for change or development. Representation again is not one of mere tokenism, but actual participation in the decision making process, not just in politics, but all social institutions. This is especially true of women. It is being increasingly realized that "one of the important steps in deepening democracy and democratic governance is to ensure a better representation of women in politics. More women in politics across the world, inclusive of Africa, are presumed to assist in ensuring that gender lenses are applied to governance and in so doing, transform the lives of women on the

continent. From Mexico in 1975 to Beijing in 1995, a lot of progress has been made for the advancement of women but one area which demands more scrutiny is the political representation of women" (Council for the Development of Social Science Research in Africa, 2012).

The last two decades have witnessed the whole world debating the concept of women's empowerment and their political participation is definitely one of the parameters for deciding the state of their empowerment. What then is women's empowerment? The United Nations Guidelines to Women's Empowerment (popin@undp.org) identifies the following five components to describe a state of empowerment, these being:

- Women's sense of self-worth;
- Right to have and to determine choices;
- Right to have access to opportunities and resources;
- Right to have the power to control their own lives, both within and outside the home;
- Ability to influence the direction of social change to create a more just social and economic order, nationally and internationally.

If we examine the extent of political participation of women in democratic governments at all levels of governance, it becomes evident that they fair very poorly on all the five indicators of empowerment cited above. Low representation of women in political institutions is a ubiquitous feature of all societies. Though political participation is recognized as a basic human right in the Universal Declaration of human Rights no society has given them their due (see Batliwala, 2014).

It is this realization that was the driving force for the emergence of the idea of giving them special representation, to begin with in local governments. India stands out as the harbinger of this idea because almost three decades ago, the country saw the opening up of these special opportunities in rural local self-government, with the state of Karnataka taking the lead. With this move democratic decentralization got a new meaning.

Panchayat Raj, the rural local self government has a long history in India. The state of Karnataka has been a key player in ushering a system of people centric rural governance. But women were not given an opportunity to contest elections until the Karnataka *Zilla Parishad, Taluk Samiti; Mandal Panchayat* Act 1983 was passed. But at the national level women's entry into local governance happened only in 1993-94, with the 73rd constitutional amendment.

As a backdrop to the discussion on the need and relevance of the participation of women in rural governance, in the section that follows a brief description of the history of *Panchayat Raj* in India and Karnataka is presented.

Panchayat Raj in India

India's experiences with grassroots level governance dates back to early *vedic* times (1200 BC). In almost every village in India, village bodies called *Sabhas* oversaw administration of villages that came under their jurisdiction. Over a period of time these *Sabhas* were transformed into *Panchayats*, a council of five persons. Until the arrival of the British, the *Panchayats* were the supreme power centres in India's villages.

The situations of *Panchayats*, however changed with the onset of the colonial rule. The British were not really keen on preserving

the autonomous character of these institutions. They thus treated *Panchayats* as a revenue collecting mechanism. In spite of local resistance and the pressure on the colonial government to democratize village level institutions, the British were not in a mood to vest these institutions with absolute powers. A power structure based on hierarchy that was the hallmark of colonial political institutions was also imposed on village *Panchayats* by the British.

It was not until 1870 that the British considered the establishment of a local self government. Mayo's Resolution of 1870 and Lord Rippon's efforts in 1882 to democratize local institutions are seen as milestones in the history of local self government in India. By 1907 the stage was set for the emergence of rural level local government with the appointment of Royal Commission on Decentralisation. It was actually Mahatma Gandhiji who set the tone of the nationalist point on the *Panchayats* when he declared that village *Panchayats* would almost enjoy the status of self governments which could take care of local needs.

The Montague-Chelmsford Reforms made local self government a 'transferred subject' under the schemes of diarchy. Though there were constraints in the way of applying this principle in all the provinces of British India, it was seen that even as early as in 1925 at least eight provinces had passed the *Panchayat* acts and in the following year, six native states had also passed the Act. The idea of *Panchayat* formed an integral part of the freedom movement. Gandhiji viewed *Panchayats* as the true representatives of people because their support came from the grassroots. Soon efforts were made to transform local bodies as true representatives of the people. However, due to the outbreak of the Second World War in 1939 not much headway was made. In fact the period between 1939-46 did not witness any

positive developments in the development of local self government.

Panchayats in Independent India

It was in the year 1952 that the Government of India launched a comprehensive programme of community development popularly known as CDP. This programme however could not make much headway because of limited people's participation. The Balwant Rai Mehta Committee constituted to review the structure and functions of CDP had suggested that a set of institutional arrangements be put in place for ensuring meaningful people's participation in local governance. This resulted in the creation of a three-tier-system of PRIs to organize and manage rural development activities. In 1959, Raajsthan became the first state in the country to establish *Panchayat Raj* and soon other states followed. In the true spirit of democratic decentralization that was advocated by the Balwant Rai Mehta Committee, all the states had passed the *Panchayat* Acts and created three structures namely Village *Panchayats* at the base, *Panchayat* Samitis in the middle and *Zilla Parishats* at the apex levels.

The constitution of the Ashok Mehta Committee in 1977 paved the way for a new thinking on the concepts and practices associated with the PRIs. The Committee which recommended far reaching changes in the functioning of *Panchayats* with a focus on transforming the quality of rural life proposed a structure consisting of *Zilla Parishat, Taluk Samiti* and *Mandal Panchayat*. Other significant developments envisaged by the Ashok Mehta Committee were the inclusion of *Panchayat Raj* in the Constitution and participation of political parties in elections. Reports of the GVK Rao Committee (1985) and LM Singhvi Committee (1986) set the stage for making the district as the basic unit for planning, holding regular elections to

PRIs and allocating more financial resources to *Panchayats*.

It was the 73rd constitutional amendment that set the stage for far reaching changes in the *Panchayat Raj* institutional set up. The reservation of 33 percent seats for women was a landmark decision that led to the inclusion of women who were kept away from participating in the political decision making process for centuries. Women for the first time got an opportunity to direct the course of events envisaged for rural development.

Panchayat Raj in Karnataka

Karnataka has been a pioneer in local self governance. Its tryst with *Panchayat Raj* dates back to the 19th century. As early as in 1860 'local fund' and 'local fund committees' were constituted in every district. Following the reorganization of states in 1956, the Mysore Local Boards and Village *Panchayats* Act came into being. Under this Act, village *Panchayats* at the village level, *Taluk* Development Boards at the *taluk* level and District Development Councils for each district were constituted. While village *Panchayats* and *taluk* boards had elected representatives, councils were mere advisory bodies comprising of government officials of development departments. Most of the rural development work and schemes were channelized through *taluk* boards and even village *Panchayats* were under the control of *taluk* boards. This system continued till 1983.

In order to decentralize administration further, a new act known as the Karnataka *Zilla Panchayat, Taluk Panchayat Samiti, Mandal Panchayat* and *Nyaya Panchayat* Act came into being in 1983.This Act was designed in the light of the Report of the Ashok Mehta Committee. The new act interlinked *Mandal Panchayats* (village level) with *Taluk Panchayat* Samitis (*taluk* level) and *Zilla* Parishats (district

level). In the new system, only *Mandal Panchayats* and *Zilla Parishad*s had elected bodies. *Taluk Panchayat Samitis* remained as coordinating institutions between *Mandal*s and *Zilla Parishad*s and worked under the *Zilla Parishad*s. Also, in the new setup, *Zilla Parishad*s were entrusted with more powers and functions. They almost functioned like the governments of the districts. Most of the development activities of the state were executed or carried on through these *Zilla Parishad*s. Nearly 80 percent of the total development expenditure was earmarked for *Zilla Parishad*s. Except major and medium irrigation works, all other development works were entrusted to the *Parishad*s. It was actually this Act which paved the way for women's reservation and served as the curtain raiser to the 73rd and 74th constitutional amendments.

73rd and 74th Constitutional Amendments: The Key to Inclusion of Women in Governance

The 73rd and 74th amendments that were incorporated into the Constitution of India heralded the era of a gender inclusive system of governance. In fact both rural and urban local bodies came under Part IX of the Constitution of India, 43 years after India became a republic. The two were passed in 1992 and they formed part of the Indian Constitution in 1993. Besides opening up the governance structure to groups that were hitherto virtually excluded from politics, the 73rd and 74th amendments created the space for reservation of one-third of the total number of seats in rural and urban local bodies for women. It also laid down that one-third of the seats reserved for SCs and STs and chairpersons at all levels are to be reserved for women.

The 73rd Constitutional Amendment Act, 1992 provides reservations for women in PRIs in two ways. First, it opened up not

less than one-third of the seats for direct election in each of the three tiers to women and second, it reserved one-third of the positions of chairpersons for women. Besides conferring constitutional status to *Panchayats*, which they had previously lacked and also reserving one-third of the spaces for women in PRI institutions, the amendments also paved the way for reservation of seats for scheduled castes and scheduled tribes.

It is true that the Constitution of India vide Article 14 confers the right to equality, and in this sense women have equal access to political power. But experience has shown that conferment of equal opportunities does not always translate into equal utilisation of these opportunities. Women in most places did not come forward to contest elections either because of traditional barriers to their participation in public spaces or because they were not allowed to so by their families or male aspirants for political power. The use of muscle and money power in politics also acted as constraints. Prior to the 73rd and 74th constitutional amendments the scenario vis-à-vis democratic politics was that women faced several handicaps in contesting for positions of power. These include "routine exclusion from effective decision making to physical violence against women representatives. There are also structural obstacles relating to the design of *Panchayat Raj* institutions, such as the role of the bureaucracy or the provisions for no-confidence motions or the two child norm. Another type of structural limitation is that relating to the local structures of dominance-including patriarchy, caste and class-issuing in exclusion, tokenism and surrogate representation" (HDRC, 2000:34). It is the realization of these constraints to women's participation in democratic politics that led to the enactment of the 73rd and 74th constitutional amendments, which finally paved the way for their entry into mainstream politics.

In spite of wide spread doubts being expressed by those who were opposed to the idea of redistribution of power, which was hither to concentrated in the hands of men, the 73rd and 74th constitutional amendments opened the doors of the political decision making mechanism to women, for the first time in the history of power politics. With the Union Cabinet of the Government of India, on 27 August 2009, approving 50 percent reservation for women in PRIs, women got a share in governance equal to their numbers in the country's population.

Women and *Panchayat Raj*

Even before the passage of the 73rd and 74th constitutional amendments, which laid down that 33 percent of the spaces in rural and urban local bodies, respectively must be set apart for women, there were a few instances of women who had participated in village bodies. But this was a privilege enjoyed by women of upper castes and land owing families. Also, only one or two places used to be given to these women. Neither did they have visibility nor were their voices heard.

When the question of giving special representation to women in the political decision process emerged, opposition to the idea stemmed from two sources. The first was from patriarchal forces that were simply not ready to accept women as their co-partners in power politics. They expressed doubts about women's capacities to handle political responsibilities and justified their stand by stressing on women's lack of experience in the area.

The second reason for opposition came from those quarters, which were already enjoying power and was not ready to give it up. Setting apart one-third of the seats for women in PRIs would mean

that so many men would not be able to lay their claim to these seats. Reservation for women would also mean redistribution of power, a situation for which they were not prepared.

It was also widely felt that if one-third of the seats in PRIs were reserved for women, enough number of women would not come forward to contest these elections. But "these fears have been found unfounded and on the whole nearly five million women candidates file nominations to contest for one million posts. This means on an average there were five women candidates contesting every seat. What is even more remarkable is that some women managed to win general seats defeating rival men or women candidates. In Karnataka for example, 44 percent women have been elected to the *Panchayats*. That is, 11 percent unreserved seats have been won by women defeating rival men and women candidates" (Baviskar and Mathew, 2009:13-14).

What Difference do Women make if they are given Special Spaces in *Panchayat Raj* Institutions?

This question has often been raised both in the political and public domain. Giving special representation to women does not mean that men should not be involved in activities or formulation of policies meant for women's empowerment. It is also not to be interpreted that men are insensitive to issues of gender. Affirmative action that brings more women into political spaces is simply a matter of social justice that has long been denied to them. Also, there are areas, where women who have personally experienced the pains of violence, deprivation and denial can work with a better sense of involvement, for changing the lives of other women, in particular and entire communities, in general.

When women come to power, they are more likely than men to address such necessities as creation of drinking water sources close to their homes, repairing community resources such as school buildings or bridges, demanding the functioning of an effective public distribution system and provision of health care facilities. Such issues as girls' education, safe motherhood, female foeticide, creation of community infrastructure have also been addressed by women *Panchayat* members in different parts of the country.

One of the strongest threats to women's empowerment has been the alcoholic addiction of men. Alcohol has disrupted families, led to violence against women and affected the health of women. However, the number of liquor shops in India's villages is increasing and women have borne the brunt of alcoholic addiction of men. They are victims of a double edged sword in the sense that they have to work both within and outside the home to support and sustain their families. Often, they are forced to give up their earnings for supporting the drinking habits of male members of their families. This problem has never been seriously addressed by policy makers either in local bodies or at state and national level. But women have taken the lead in combating the liquor lobby, which is one of the forces dictating power politics in the country (Indian Express, May 11, 1999).

The inclusion of women in local governance has definitely engendered governance. Some of the ways "in which women, through PRIs, are changing governance are evident in the issues they choose to tackle; water, alcohol abuse, education, health and domestic violence. Women also express different values. Women value proximity, whether it be to a drinking water source, a fuel source, a crèche, a health centre, a court of justice or an office of administration. The enormous expansion of women's representation in decentralized

government structures has highlighted the advantages of proximity, namely the redress of grievance and (most important of all) the ability to mobilize struggle at a local level where it is most meaningful. Thus women are helping to radicalize local government" (Jain, 1996).

When women participate in decision making bodies in local self government, their participation is not just limited to their interest in personal or familial matters. They tend to include in their agenda issues that are important for the development of their respective villages. Such decisions tend to enhance the quality of life of entire neighbourhoods. A classic example is that of a Meitei woman *sarpanch* in Manipur "who does all the work herself and has successfully completed several development projects for the *Panchayat* such as repairing roads, construction of *panchaayt ghar*, cleaning the village ponds and renovating the school building" (Baviskar and Mathew, 2009:14-15).

Another case is that of 35 year-old Shushma Bhadu one of those rare progressive women from rural Haryana, "who has chosen her own future by entering public life. Elected in 2010 as the *sarpanch* of the *Dhani Miyan Gram Panchayat* in Fatehabad district, she is a true revolutionary, both in her thinking and practice. In a state that is known to reject the girl child, Bhadu has managed to make her village a 'model' when it comes to women's rights and the survival of daughters. This Class Seven dropout has also zeroed in on education in addition to ensuring greater access to water and sustainable livelihood for her people. Another community heroine is Nayana Patra, 45, a ward member from Dhenkenal district's Baraun *Gram Panchayat*, Odisha, who, with the support of other women, has devised an innovative way to reduce liquor consumption in the region. By imposing a fine on those found drunk, she not only managed to discourage such unsociable behaviour, but also got funds to build toilets in the village"(www.wfsnews.org).

FUTURE CHALLENGES

Success stories of women who have conquered many hurdles in exercising their power are many. However, we cannot rest on these achievements. The provision of reservation for women per se does not mean that the goal of gender equality is reached. The fear that the entry of a large number of women into mainstream politics would upset power equations even today stand as the greatest obstacle to their entering the portals of decision making bodies. Though political parties affirm their commitment to gender justice in their election manifestos from time to time, they have failed to translate it into action. Irrational reasons are put forward to deny women their rightful position in politics.

There is a tendency in the male dominated political set up to belittle women's achievements and glorify their failures. One often hears about women PRI members being remote controlled by male members of their families or political parties, and functioning as mere dummies. It is also true that in many *Panchayats* women have failed to exercise their democratically acquired rights, and have allowed themselves to be overpowered by male family members or bureaucrats. But this situation cannot go on forever.

Gender discrimination has a history of centuries, but the history of affirmative action is only a few decades old. To bridge this gap is not an easy task. But concerted efforts must be made to sensitize them to the nuances of power politics by helping them to overcome inhibitions and culturally imposed barriers. It is here that media and civil society can play a meaningful and vital role.

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Usage of Mobile Communication for Sustainable Agricultural Development in Karnataka, India

ONKARGOUDA KAKADE
TAHMEENA NIGAR SULTANA KOLAR

Abstract

The present study reveals the access of mobile technology for sustainable agriculture development in Karnataka. In the context of Indian agriculture, mobile technology has been a vital component in the recent years. The technology helps farmers to obtain updates on the market prices; finance and education, making it possible to monitor resources, track products etc. The Kisan Call Center empowers farmers and people living in rural India with pertinent and high quality information and services through affordable communication network in a sustainable manner. This paper is based on the research study which examined the possibilities and the potential of mobile communication, its style of functioning, services, language and need of farmers, with the help of a structured interview schedule. For collection of data, multi stage sampling technique was used. The study includes four districts in Karnataka state i.e. Koppal, Udupi, Kolar and Bijapur. From each district 45 farmers formed the study sample thus constituting a total sample of 180. The study showed that the maximum number of farmers use mobile phones to get information regarding seeds and crops, plant protection measures for pest and disease control etc. The study also identified that mobile technology

is a credible source in disseminating information on sustainable agriculture to farmers.

Key words: *Mobile communication technology, farmers, sustainable agriculture, development, information.*

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INTRODUCTION

In India agriculture has a long history that goes back to ten thousand years. At present, in terms of the agricultural production, the country stands second in the world. Sustainable agriculture refers to a range of strategies for addressing the varied problems that affect agriculture. Such problems include loss of soil productivity from excessive soil erosion and associated plant nutrient losses, surface and ground water pollution from pesticides, fertilizers and sediments, impending shortages of non- renewable resources, and low farm income from depressed commodity prices and high production costs. Furthermore, "sustainable" implies a time dimension and the capacity of a farming system to endure indefinitely (V. Rao et al).

Mobile phones opened up new opportunities for reaching farmers with agricultural information. Farmers were seeking information through the SMS and voice messages and it became an easy task for them to use this medium which was simple. In the context of Indian agriculture, mobile technology has been playing vital role in recent

years in reaching out to farmers, who for a long time had no access to technology. Technology provides information to farmers about market prices, weather, finance, and government schemes, making it possible for them to scrutinize resources, track products etc. The *Kisan* Call Center empowers farmers and people living in rural India with relevant information and services through an affordable communication network, in a manner that makes it possible for them to stay in touch with the latest development in the field.

To improve farmers' access to information, the Karnataka State Agricultural Marketing Board (KSAMB) has also initiated diffusion of market prices free of cost through mobile SMS alerts to farmers. Apart from these, it is also disseminating the same market information using other means such as local newspapers, television, radio, *Kisan* Call Centers and websites like www.*krishimaratavahini*.nic.in and www.agmarknet.nic.in.

Mobile-based information delivery holds great potential and is either being considered as or is in use as a major channel for sustainable agricultural advisory services. As mobile phone penetration continues to increase among the farming community and information services continue to adapt and proliferate, sufficient potential exists for a much deeper rural productivity impact in the future, but achieving full productivity potential will depend on reducing other constraints which limit the use of information that farmers can obtain through their mobile phones (Mittal and Tripathi, 2009). The present research aims to throw light at the various possibilities and potential of mobile communication technology, its style of functioning, services, language and needs of farmers.

REVIEW OF LITERATURE

Mittal and Tripathi (2009) stated that the mobile phone can act as a catalyst in improving farm productivity and rural incomes, the quality of information, timeliness of information and trustworthiness of information. These are the three important aspects that have to be given due importance while delivering services to farmers. There exist several constraints that restrict the ability of farmers, especially small farmers that can come in the way of their using technology induced services.

The study by Dhaliwal and Joshi (2010) show that farmers prefer information on marketing and therefore, information takes top rank in the list of their preferences. According to farmers, State Agriculture Universities are the most credible source of information while private agencies are the least. Majority of farmers preferred 2-3 messages per day for fulfilling their information needs. They preferred SMS as the best way of providing information as they can read and save it for its future use. And, farmers in Rural Social System mostly use mobile phones to get information on production.

Kishore, Gupta and Singh (2011) indicate that mobile phone usage is yet to be discovered by the Indian farmers. As merely, 2.29 percent farmers give priority to mobile phones as a source of information, there is a need for orientation to let the farmers know the potential of mobile phones for information sharing and awareness creation.

Furuholt and Matotav (2011) reported that improved access to communication and information through mobile phones has affected the entire cycle of farming life during the year and has brought about considerable change in the livelihood opportunities and has also reduced risk for farmers.

Das, Basu and Goswami (2012) reveal that farmers were mostly benefited from voice mail in adopting to better agricultural practices followed by increased production and revenue, change in cropping pattern and establishing connections to the market.

STATEMENT OF THE PROBLEM

Mobile communication has come to play an important role in the information age. It gives access to information about government plans on sustainable agriculture to large number of farmers. It was, therefore felt necessary to undertake an indepth research study on the "Usage of Mobile Communication Technology for Sustainable Agricultural Development in Karnataka".

OBJECTIVES

- To know the access of mobile technology for sustainable agriculture in Karnataka.
- To assess the various possibilities and potential of mobile communication.
- To study the pattern of usage of mobile services keeping in view the needs of farmers.
- To know the impact of quality of service provided by call centers to farmer

RESEARCH DESIGN

The study was conducted in four zones of Karnataka state during the year January-June 2013. In this study, multi-stage sampling technique was used. The respondents for this study were selected from four districts i.e. Koppal, Udupi, Kolar and Bijapur and from each district

45 respondent farmers were selected for participating in personal interviews. The data were collected through a structured interview schedule. The total sample of the study comprised of 180 respondents. The data were analysed and coded using SPSS software.

FINDINGS AND DISCUSSION

A socio-demographic profile of the sample respondents is presented in Table-1 under four variables namely gender, age, education and annual income.

TABLE 1

Sl no	Gender	f	Percent
1	Male	161	89.4
2	Female	19	10.6
	Age		
1	Below 35 years	67	37.2
2	36-45 years	91	50.5
3	46 years and above	22	12.2
	Education		
1	Illiterate	8	4.4
2	Primary/secondary	86	47.8
3	PUC/Diploma	52	28.9
4	UG/PG	34	18.9
	Annual Income		
1	Up to Rs. 10,000	2	1.1
2	10001-20000	82	45.6
3	20001-30000	20	11.1
4	30001-40000	41	22.8
5	< 40000	35	19.4

N=180 ***Socio-Demographic Profile***

Gender: The data relating to gender show that the majority of the subjects **(**89.4%) were male. The usage of mobile phone by women seems to be at very low ebb. This finding is consistent with these of studies by A. E. Agwu, J. N. Ekwueme and A. C. Anyanwu (2008), Ani, A.0 and Baba, S.A (2009), Nwachukwu, C. A., (2010), Ayoade A.R (2010) .

Age: An analysis of the age composition of the respondents reveal that little more than half (50.5%) were in the age group 36 - 45 years, where 37.2 percent of subjects were below the age of 35 years, a small percent, i.e., 12.2 percent were above 45 years**.** The results are in consonance with the findings of Xu Guanren (1989), Nataraju and Perumal (1996), KrishnaMurthy A.T (1999) and Barman and Gogoi (2000) which upheld that majority of the farmers were in their middle age.

Education: Data on education indicate that nearly half of the respondents (47.8%) had received primary or secondary education. While 28.9 percent of the respondents had +2 or diploma level education, and 18.9 percent had college degree. Only 4.4 percent of the respondents were illiterate. The educational attainment seems to be related to the availability of better educational facilities in the study area. The results are in conformity with the findings of Rehman Fariha (2011) and Olajide B. Rasak and Amusat A. S. (2012).

Annual Income: The data related to annual income point out that majority of the subjects had an annual income ranging from Rs.10, 000 to 20,000. Those who earned an annual income ranging between Rs. 20,001 and 30,000 and 30,001 and 40,000 were 11.1 percent and 22.8 percent respectively. 19.4 percent had an annual income of more than Rs. 40,000. A study on similar lines by Hosamani (2009) showed that 53 percent of the respondents had annual income more than Rs 11,500.

From among 180 subjects, it was seen that 68.8 percent used 2G mobile phone and the remaining (31.11%) used 3G phone.

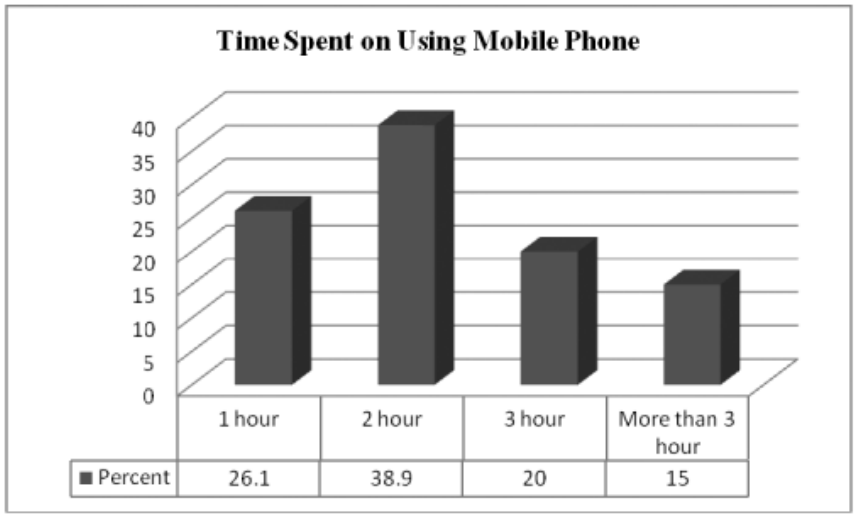
The data relating to the time spent on using a mobile phone are given in Table 2.

TABLE 2

Sl No	Duration	f	Percent
1	1 hour	47	26.1
2	2 hour	70	38.9
3	3 hour	36	20.0
4	More than 3 hour	27	15.0
5	Total	180	100.0

N=180 ***Time Spent On Using Mobile Phone***

Graph-1



The analysis of data pertaining to the time spent on mobile phone show that most of the respondents (38.9 %) spend 2 hours a day using their mobile phone, whereas, 26.1 percent spend an hour a day. 20 percent and 15 percent spend 3 hours or more than 3 hours a day respectively.

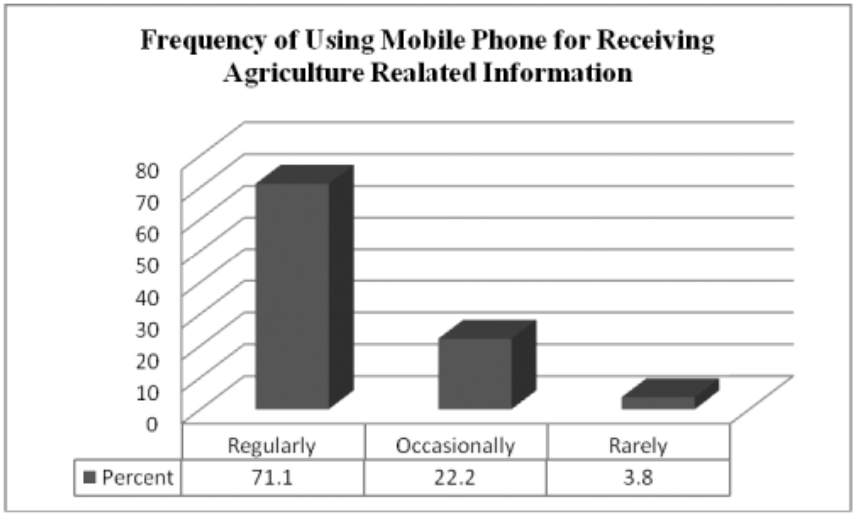
Table 3

The data in Table 3 show the frequency of usage of mobile phone for obtaining agriculture related information.

Sl.No.	Frequency	f	Percent
1	Regularly	128	71.1
2	Occasionally	45	22.2
3	Rarely	07	3.8
4	Total	180	100.0

N=180 Frequency of Using Mobile Phone for Agricultural Information

Graph-2



It is seen that the majority 71.1% use the mobile phone regularly for the purpose of agriculture followed by 22.2% who use it regularly and 3.8% who use it rarely.

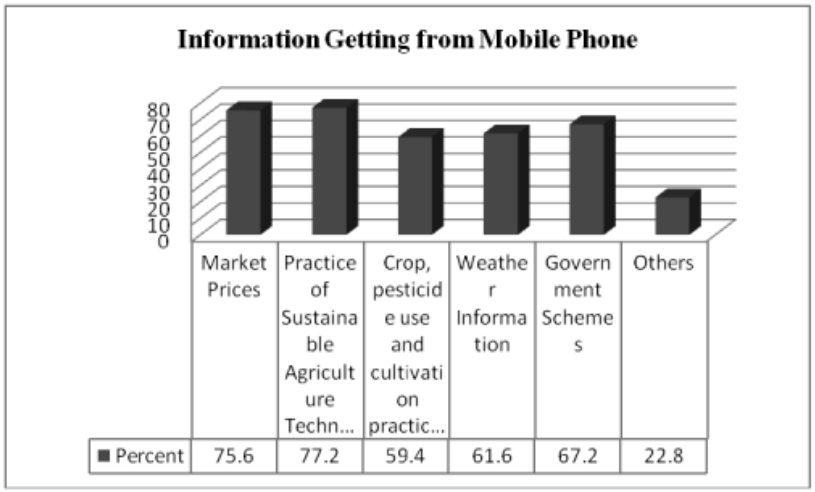
Table 4 contains data on the type of information received through mobile phone.

Table 4

Sl no	Type of information	f	Percent
1	Market Prices	136	75.6
2	Practice of Sustainable agriculture technology	139	77.2
3	Crop, pesticide use and cultivation practices	107	59.4
4	Weather Information	111	61.6
5	Government Schemes	121	67.2
6	Others	41	22.8

N=180 Type of Information Accessed from Mobile Phone

Graph-3



The information in the table 4 indicates that the farmers use the mobile phone for receiving a rather wide variety of information. For every type of information indicated in the table the usage ranges between 60-70 percent. However, the most sought after areas seem to be information relating to market prices (75%), sustainable agricultural practices (77.2%), government schemes (67.2%) and weather information (61.9%). Studies by Mittal and Tripathi (2009) showed that most of the famers sought information regarding seeds and market price was the second most sought.

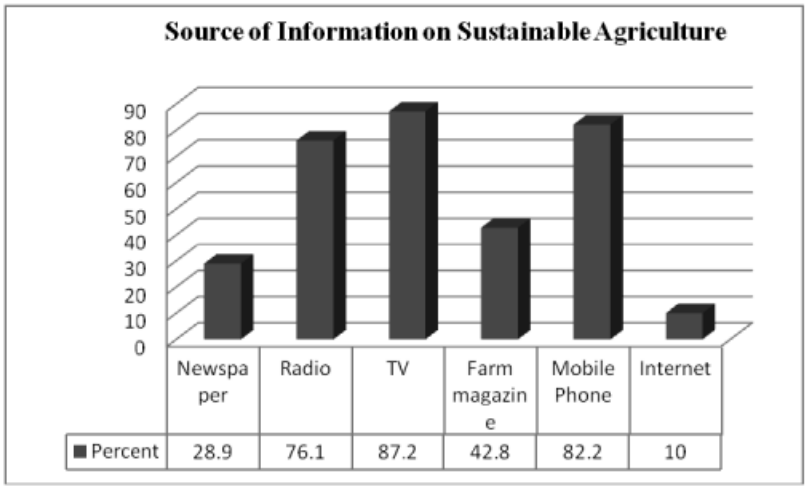
According to Table 5, it was seen that besides the mobile phone, framers also sought agriculture related information from other sources.

Table 5

Sl.no	Sources of information	f	Percent
1	Newspaper	52	28.9
2	Radio	137	76.1
3	TV	157	87.2
4	Farm magazine	77	42.8
5	Mobile Phone	148	82.2
6	Internet	18	10.0
7	Krishi Vigyan Kendra	78	43.3
8	Kisan Call Center	58	32.2
9	Others	5	2.8

N=180 Sources of Information on Sustainable Agriculture

Graph-4



Besides the Mobile phone (82.2%) it is seen that the most popular information sources were television (87.2 %) and radio (76.1%). The other information sources were *Kisan Vigyan Kendra* (43.3%), *Kisan* Call Centre (32.2%) and Internet (10.0%). Though a very small percentage, it is interesting to note that farmers have started using internet.

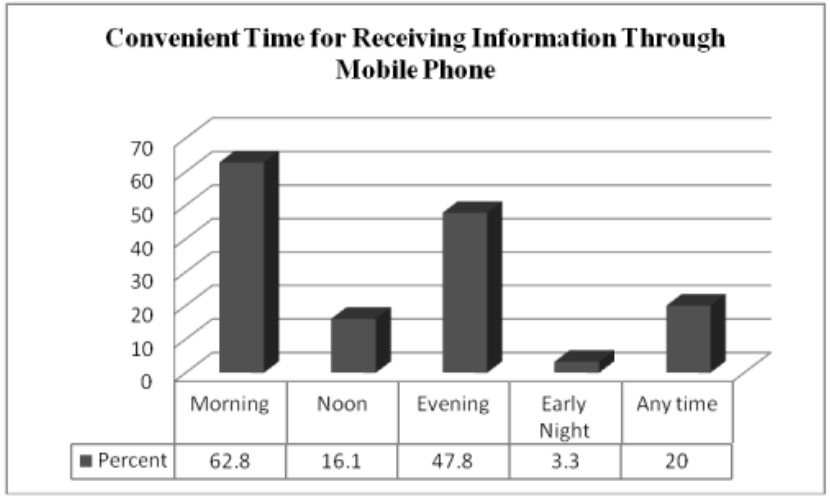
Table 6

Table 6 contains data on the time that farmers consider suitable for using mobile phone.

Sl no	Time	f	Percent
1	Morning	113	62.8
2	Noon	29	16.1
3	Evening	86	47.8
4	Early Night	6	3.3
5	Any time	36	20.0

N=180

Graph-5



The data in table 6 showed that more than half of the respondents (62.8 %) preferred morning, followed by 47.8 percent who said they preferred the evenings. Those who were ready throughout the day and in the afternoon were 20 percent and 16.1 percent respectively. Only 3.3 percent preferred night time.

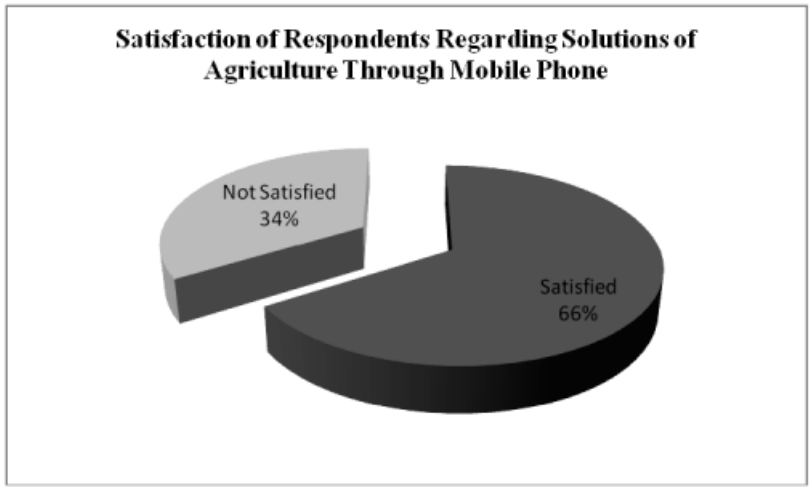
TABLE 7

Satisfaction about the Information Received Through the Mobile Phone

Sl. No.	Opinion	Frequency	Percent
1	Satisfied	119	66.1
2	Not Satisfied	61	33.9
	Total	180	100.0

N=180

Graph-6



For question related to the solutions they received by using the mobile, the farmers replied either in the affirmative or negative. The answers are shown in Table 7. From the data it could be seen that the majorly (66.1%) were satisfied with the solutions that they received for agriculture related questions. Those who replied in negative were 33.9 percent.

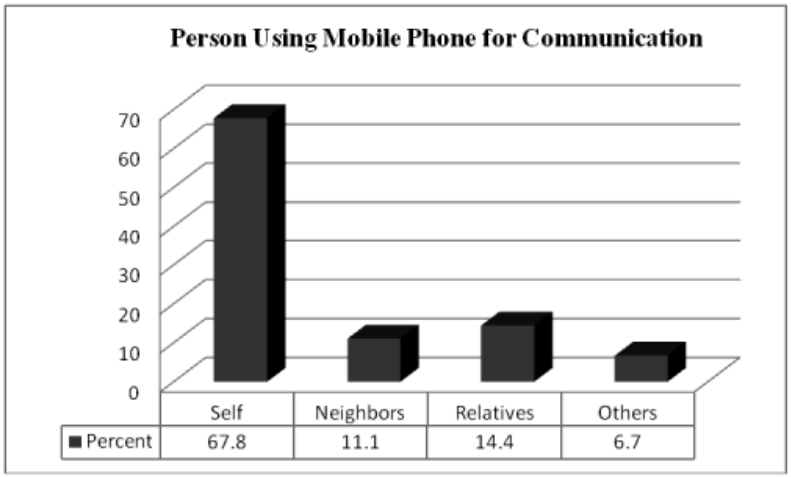
TABLE 8

Persons Using Mobile Phone for Communication.

Sl. no.	f		Percent
1	Self	122	67.8
2	Neighbors	20	11.1
3	Relatives	26	14.4
4	Others	12	6.7

N=180

Graph-7



The respondents were asked if they personally sought agriculture related information using the mobile or depended on others. The answers show that majority of the respondents (67.8%) used the mobile phone to contact experts on matters relating to sustainable agriculture. Relatives (14.4%), neighbors (11.1%) and others (6.7%) were alternative sources of information on agriculture.

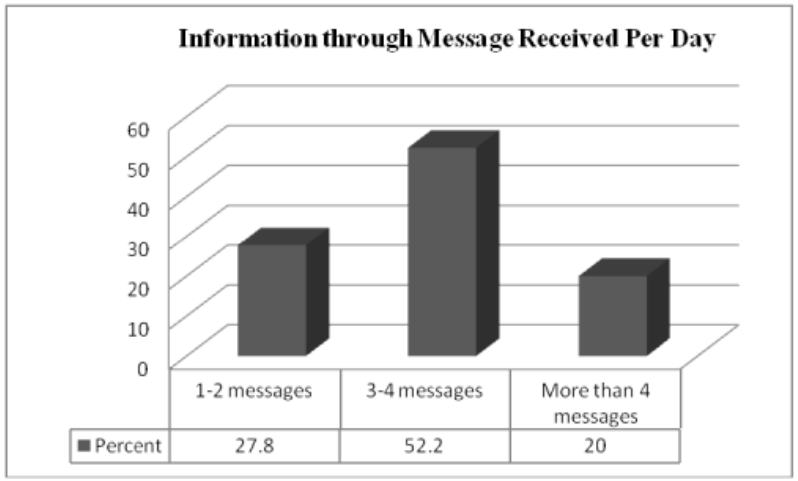
TABLE 9

Information through Messages Received Per Day

Sl No	Messages	f	Percent
1	1-2 messages	50	27.8
2	3-4 messages	94	52.2
3	More than 4 messages	36	20.0
	Total	180	100.0

N = 180

Graph – 8



Besides direct contact the SMS mode was also used by respondents to receive information on agriculture. The number of messages ranged from more than 4 to 1 or 2 messages. The majority (52.2%) received between 3-4 messages per day.

TABLE 10

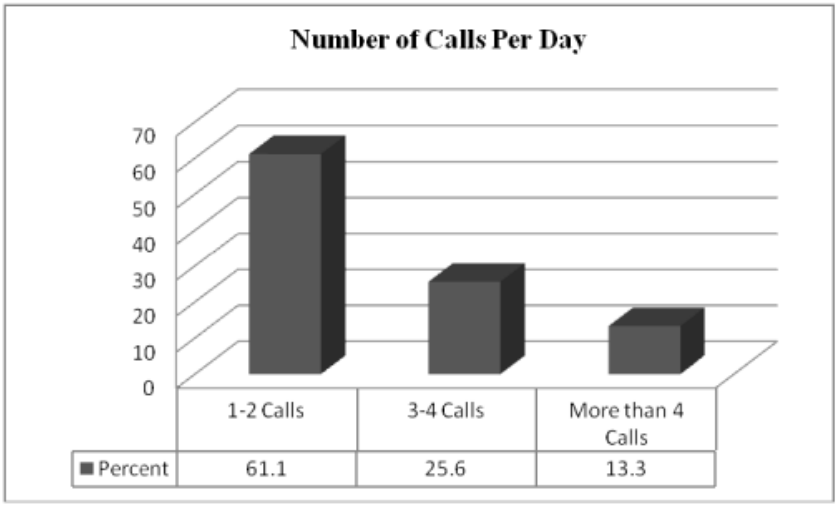
NUMBER OF CALLS PER DAY

Table 10 has data relating to the number of calls that farmers received per day.

Sl no	Call preferred	f	Percent
1	1-2	110	61.1
2	3-4	46	25.6
3	More than 4	24	13.3
	Total	180	100.0

N=180

Graph-9



It shows that more than half the respondents (61.1%) received 1-2 calls per day, followed by 25.6 percent who received 3-4 calls and only 13.3 percent received more than four calls per day.

TABLE 11

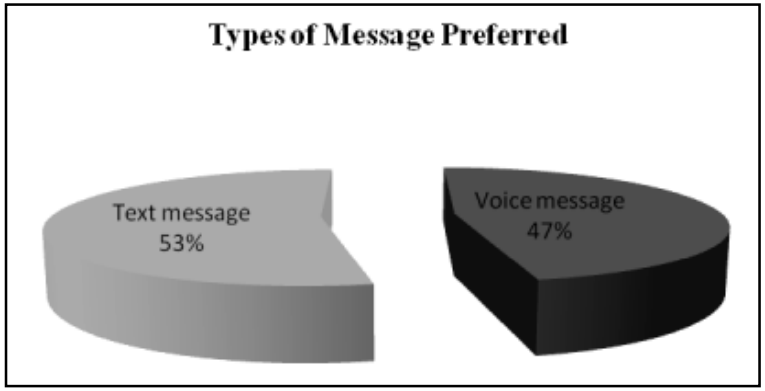
TYPE OF MESSAGES PREFERRED

Table XI has the data relating to their preference of either voice message or text message.

Sl no	Type of message	f	Percent
1	Voice message	84	46.7
2	Text message	96	53.3
	Total	180	100.0

N=180

Graph-10



The majority preferred text message (53.3%) as against Voice message (47%) as it facilitated saving the message for the future use.

CONCLUSION:

The study has shown that framers depend on development mobile communication for receiving and updating their knowledge related to agriculture. Today, mobile phones have started making an impact on sustainable agricultural practice usage. The findings show that mobile phones have distinct advantages as a communication tool in accessing information. Mobile phones help farmers in decision making by providing information regarding sustainable agriculture, seeds and crops, plant protection measures for pest and disease control etc. In this study, majority of the farmers prefer text messages and most of the farmers opined that the mobile phone is very easy to access. They also said that the solutions are through quick replies. While showing that a large number of farmers depend on mobile communication for obtaining agriculture related information, the study indicated a growing tendency towards the use of technology for improving the quality of agricultural productivity.

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VIEWPOINT

Cinema and Construction of Identity: Dr Rajkumar Phenomenon in Karnataka

ROOPA K.N

Abstract

Aided by science and technology cinema has become a medium for entertainment, business, dialogue, propaganda, education, religion, and culture. The year 1954 becomes extremely important for Kannada cinema as there comes a turning point. The movie Bedara Kannappa starring S. P. MuthuRaj rechristened as Rajkumar by the film's producer Gubbi Veeranna was released. The movie created box office history gave a much needed boost to the ailing and struggling Kannada cinema. Rajkumar was to set the standards for both acting skills, sustenance and consolidation of the mass adulation that followed him. He was a product of theatre which nurtured and refined him. His impeccable voice complimented his acting. Another significant contribution has been introducing the best of Kannada literary works and poetry to the Kannada subaltern by their cinematic reproductions. Gradually, one sees the evolution of a least educated, rural, backward caste man becoming the symbol of Kannada, cultural icon and the identity of Kannada cinema.

Key Words: *Kannada Cinema, Culture, Rajkumar, Subaltern hero*

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INTRODUCTION

"*The narrative and representational aspects of film make it a wholly unique form of art. Moreover, the collective experience of film as art renders it a wholly distinct leisure activity. The unique properties of attending the cinema can have decisively positive effects on mental health. Cinema attendance can have independent and robust effects on mental wellbeing because visual stimulation can queue a range of emotions and the collective experience of these emotions through the cinema provides a safe environment in which to experience roles and emotions we might not otherwise be free to experience. The collective nature of the narrative and visual stimulation makes the experience enjoyable and controlled, thereby offering benefits beyond mere visual stimulation. Moreover, cinema is unique in that it is a highly accessible social art form, the participation in which generally cuts across economic lines. At the same time, attending the cinema allows for the exercise of personal preferences and the human need for distinction. In a nutshell, cinema attendance can be both a personally expressive experience, good fun, and therapeutic at the same time (*Noah Uhrig, 2005*)"*. In a simple way, the author clearly brings out the cause and impact of cinema.

Cinema has been continuously striving to document emotions, feelings and experiences. From cave engravings to digital art the intense urge to retain visions and images, has resulted in human beings trying to preserve these feelings. This concept of '*Persistence of vision'*- an ability of the human brain to retain images for a brief period after they disappear from the field of vision (Kupsc Jarek, 2003), led man to hold on to images physically so that he could visit them as and when he wished.

Beginning with Zoetrope, a Grecian visual instrument, Auguste and Louis Lumiere in March 22 1895 who developed an apparatus called Cinematographe, which combined the functions of a movie camera, film printer and film projector no one then would have imagined the impact of cinema on the modern era. Inventions and innovations of Eadweard Muybridge, George Eastman, Thomas Alva Edison, Thomas Armat etc., coupled with entrepreneurial zeal of few set the ball rolling in the media world which is yet to stop.

Aided by science and technology cinema has become a medium for entertainment, business, dialogue, propaganda, education, religion, and culture. By recreating history, representing the present and ideating about the future, cinema has led and is leading men and women alike to a surreal world. Cinema means different things to people, if it is escapism for some; it is an experience of the untold, unheard and unseen visualizations to the uninitiated, uneducated or the ignorant. It has been the cheapest source of entertainment. Hence, it is no wonder with the world's second largest population and also with more than 33% (The World Bank Report, 2013) living below the poverty line cinema in India becomes a clear favourite to escape from the daily grind and rigour of a hard and monotonous life. It should be no surprise that India today is the largest producer of movies.

History of *Kannada* Cinema

The inception of cinema in India began in 1913 with '*Raja Harishchandra*', a silent movie produced by Dada Saheb Phalke. Puttaswamy refers to cinema's loss of global identity once it embraced 'sound' as part of its continuous technological evolution. When the movie was silent it belonged to everybody the moment it began talking, the emergence of Talkies, cinema became cinema with varied histories

(PuttaSwamy, 2009). Hindi cinema presented its first talkies with '*Alam Ara*' in 1931, *Kannada* cinema soon followed it with its first talkie in 1934. In the initial years films produced in India were nothing but extensions of theatre productions which were recorded and presented. Such productions strove and survived on mythological stories.

Interestingly, the first *Kannada* movie '*VasanthaSena*' brought together noted literary figure T. P. Kailasam , well known cameraman Mohan Bavnani of Central Film Divisions, G. K. Nanda, a Professor at University of Mysore, S.S. Narayana Shastri, a social activist, Kamala Devi Chattopadhya, writer Ajjampura Sitaram, Journalist B.S. Rama Rao, D. K. Bharadwaj well known for his English-*Kannada* dictionary, art critic and painter G. Venkatachala and other intellectuals, artists and technologists. In fact, the synopsis of the movie was written by poet-writer James Cousins. It was for the first time that experts belonging to various fields of literature, music, education, theatre came together.

With such an auspicious beginning *Kannada* cinema did not look back. However, it had to wait for another four years for its first talkie production '*Sati Sulochana'*. Even this movie was not uneventful. It was a movie produced entirely outside Karnataka in Kolhapur and by non - *Kannadigas.* With such an eventful and fabulous beginning, *Kannada* cinema had to wait till 1954 to become an important and profitable industry. Between 1934 and 1954 the movies produced by *Kannada* film industry were only 40.

The reasons for this shortfall were several. Unlike *Hindi, Marathi, Tamil* and *Telugu* film industry *Kannada* industry was struggling with infancy and its attributes, was unable to cope with large scale funding requirements and lavishness associated with other

industries. Besides, *Kannada* movies lacked innovations, as was the case with the others. The cinema watchers had to watch the same stories which they already had viewed as plays. They were not willing to see recorded presentations of already viewed theatre works. Added to that was Second World War and restrictions, both economic and political. Any depiction of Indian mythological or historical heroes was seen as anti-national. And the biggest cause for concern was the fact that *Kannada* speaking areas were spread over other provinces, reducing *Kannada* speaking population to a minority except in the Princely state of Mysore. This resulted in the distribution problem and also brought a competition from other well established language movies.

The Birth of Stardom in *Kannada* Cinema

The year 1954 becomes extremely important for *Kannada* cinema as this became a turning point. The movie *Bedara Kannappa* starring S. P. MuthuRaj rechristened as Rajkumar by the film's producer Gubbi Veeranna was released. It was the movie version of a successful drama by the same name produced by one of the pillars of *Kannada* theatre, Gubbi Veeranna. He produced this movie under the banner of Karnataka Film Institute. The movie created box office history and gave the much needed boost to the ailing and struggling *Kannada* cinema. For once making movies in *Kannada* looked encouraging, profitable and sustainable. It also saw the emergence of a cine star in the form of Rajkumar, who for the next five decades would be the undisputed king of *Kannada* cinema.

Bedara Kannappa became a benchmark for devotional movies. It wasn't that there were no devotional movies before, but this movie gave a whole new dimension to the concept of common man's concept

of devotion and accessibility to salvation. The story of a hunter belonging to a marginalized section of society, ostracized for no fault of his by a feudal, exploitative, discriminatory structured society, seeking the path to spiritual salvation despite numerous obstacles touched the raw nerve of the masses and elites alike. The movie as a protest against institutional religion and the triumph of an underdog set numerous precedents in terms of cinematic history of *Kannada* cinema. It was the first *Kannada* movie which ran successfully for 365 days. It won the first best regional film award instituted by the central government to encourage regional films, in the year 1954. It incorporated the then latest technology available. Also, it gave immense boost to the unification movement of Karnataka. Besides it was also the launching pad for Rajkumar as a cine star. Though he had honed his acting skills in Gubbi Veeranna's theatre troupe and was one of the main actors in an earlier movie titled '*Saptharishi*', it was the role of *Bedara Kannappa* which set the momentum towards his eventual stardom. Probably, neither Gubbi Veeranna nor Rajkumar knew that they were creating cinematic history. His growth became so phenomenal that Rajkumar is identified as *Kannada* Cinema and vice versa.

Hence, the creation and sustainability of Rajkumar as a superstar becomes all the more important. As Saibal Chatterjee says, creation of cinematic superstars, *"is an ongoing process, even lifelong process, a result of calculated risks and inspired artistic and business moves"* (Anil Saari, 2011). Further, he states that the popular clout of a megastar stems as much from the fictional characters that she or he portrays as from their perceived personal attributes. In understanding the rise and consolidation of Rajkumar not only as an actor par excellence but also the first mega star of *Kannada* film industry lies

the secret behind understanding the same of Indian film industry.

Initiated into the world of theatre as a child artist for S. P Muthuraj, acting as a calling not by choice but a compulsion to saturate and shoulder family responsibilities. But even he would not have imagined that he would grow into an industry. His father too was a well known professional actor who made his living in Subbaiah Naidu and Gubbi Veeranna's theatre troupes respectively. His younger brother and sister too tried their hands at acting but it was he, a fourth standard school dropout , with a soulful voice and impeccable acting skills, scrubbed, and refined by the world of night long drama enactments, who scaled unprecedented heights of cinematic glory. He was to set the standards for both acting skills and sustenance and consolidation of the mass adulation that followed him.

Here was a man who appealed to all classes, sections of our society irrespective of caste, religion, status, region, skilled, unskilled, gender, young or old. Though one sees the establishment of Vishnuvardhan in 1971 as a star in *NagaraHaavu*, who went on to act in 220 movies and considered as the second pillar of *Kannada* cinema after Dr Rajkumar, it was the latter whose appeal went beyond the old Mysore region. He showcased his acting talent in a wide variety of roles , be it devotional- *Bedara Kannappa, Bhakta Kanakadasa, Ohileshwara, Hari Bhaktha, Bhakta, Bhakta Chetha, Kabeera, Santha Thukaram, Sarvagna, Kaivara Narayanappa, Mantralaya Mahatme*; historical- *Ranadheera Kanteerva, Shri KrishnaDevaraya, Huliya Haalina mevu* mythological- *Mahishasura Mardini, Mohini Bhasmasura, Bookailasa, Bhakta Prahallada, Babhruvahana* or melodrama folk based movies- *Katari Veera, Rajadurgadha Rahasya, Veerakesari* and others.

Bangaradha Manushya broke box office records by running in

major parts of Karnataka for nearly two long years. It inspired many educated youth to take up agriculture as a profession and contribute to nation building. *Anna Thangi, Mannina Maga, Mallammana Pavada, Bhoodana, Punarjanma, Doorada Betta, Mayor Muttanna, Bangaradha Panjara, Sampathige Savaal, Rayara Sose* and followed by *Karuneye Kutumbada Kannu, Kulavadhu, Gaaligopura, Bangaradha Hoovu, Naandi, Uyyale, Kasturi Nivasa, Eradu Kanasu* are memorable movies which will assure a successful rerun if released even today. In simple terms, he was to excel in any genre.

He brought in his own method of acting which was subtle yet impactful unlike the melodramatic styles of the well established stars. He brought in a style which suited the sentiments and culture of *Kannadigas.* He aroused patriotic passions, espoused family values, stirred emotions, showed many a wayward youth the right path, helped correct mistakes of elders, inspired people to modify their wrongs into right, wove the magic web of surreal, respected women, wooed and loved women in a dignified way. In all, he has been an epitome of an ideal son, brother, lover, husband, father, saint, king and citizen in the roles depicted. He has been a classic example of 'how one should be'. Different genres meant different sections of society too. Here was one mass Icon who was generating audience. He was making inroads into the rural audience, which mattered for numbers and sustenance of hero worship.

Construction of Identity of Rajkumar

Weren't MGR and NTR the same? If not what makes Dr. Rajkumar stand apart? What were the factors behind his allure and endurance which hold sway even today?

"*It is not enough if you are a good man, you must create an*

image that you are a good man. Every man must have an image. Take Nagi Reddi or S.S. Vasan or myself. Each of us has a distinct image. The image is what immediately strikes you when you see a person or hear his name. You put forward an image of yourself if you want to get anywhere" so said M.G. Ramchandran (Vaasanthi, 2006).

M.G.R's appeal with the subaltern classes was based on a carefully created and crafted image both on screen and off screen, of that of a marginalized underdog who grows powerful enough to dispense justice to the oppressed sections of society. The subaltern identified him with heroes existing in their folklore narratives. He exploited this very image for his political advantage.

M.G.R, Karunannidhi and later J.Jayalalitha who claimed to be the heir apparent to M.G.R's ideology, utilized *Dravidian* movement and its anti-*Brahmin*, anti-*Hindi* manifesto to build their political legacy. Similarly, N. T. Rama Rao played to the gallery with his numerous successful performances of religious and mythological heroes, instantly connecting to the masses that for long had to bear the brunt of Nizam's reign, with Urdu being regarded as an elitist language. So, if it was *Tamil* and *Dravidian* momentum in Tamil Nadu cinema and politics, it was *Hindu* religion and Telugu in Andhra Pradesh. As Raghavendra says '*the ideological hero therefore came out of a politically polarized milieu in which mass mobilization had taken place and adversaries identified*' (M.K.Raghavendra, 2011.)

Rajkumar had no known historical enemies to slay or an excessively oppressive system to demolish and claim the status of a savior and a hero. Mysore was a princely state known for its benevolent administration. In fact, it was considered a model state even by Mahatma Gandhi. So Rajkumar was to be the 'ethical hero', sans any political ideology, someone who could be identified with everybody,

belonging to any strata, religion, or caste. Hence, it was acting alone upon which he had to build his stardom. He was natural when it came to acting, he was fortunate enough to have a mentor and guide in his father, Singanallur Puttaswamiah. He was a product of theatre which nurtured and refined him. His impeccable voice complimented his acting. But it was his family, especially his wife and brother, who created the brand of a conscientious hero by choosing literary works as stories for his movies and also got to produce, market and distribute them. His family made sure that he focused only on acting and singing.

His family's first film production was his 21st picture *Trimurti* under the banner of Poornima enterprises. This was to counter the allegations that he as a star who interfered in movie making. Parvatamma's step to protest this resulted in the establishment of one of the most powerful production houses in the *Kannada* film industry. Subsequently, the next logical step was to get into distribution to check the problems associated with distribution, mainly monopoly, lower purchasing rates in old Mysore region and more so in the Hubli area. It was not that *Kannada* movie industry was chaotic or unorganized since its inception, It would be surprising for many to know that one of the most important theatre companies, Gubbi Veeranna's, which heralded the growth of both theatre and cinema had a corporate structure and approach to its organization and functioning. For example whether a lead actor, singer, director or the spot boy, everybody received their salaries on a weekly basis. Sharp business acumen and an in depth understanding of the working of movie industry led the Rajkumar family to initiate qualitative changes in production and distribution of *Kannada* movies. These resulted in tremendous generation of revenue. For example, A group called

Rajkumar Unity set up by the family, set in the strongly opposed norm that the star's movies should not be released simultaneously. This was at a time when 10 - 15 movies of Rajkumar would be released in a year. There were numerous instances where in at least three movies of the star were released in one go. Besides, another important norm that the group followed was that there has to be a gap of minimum 6 weeks between the release of one movie and another. Also, they brought the norm of prioritizing releases on the basis of completion. These significant management changes ushered in an organized system in a much confused and chaotic industry. The result was not only beneficial to Rajkumar but also to the movie industry.

Another significant contribution of this production and distribution has been the introduction of the best of *Kannada* literary works and poetry to the *Kannada* subaltern by their cinematic reproductions. Further, a technological innovation 'known as dubbing' saw its genesis in *Kannada* industry in 1943, turned out to be bane as it literally squeezed the industry in the 1950s. The *Kannada* movies were not able to compete with the flood of dubbed versions of *Tamil*, *Telugu*, *Marathi, Malayalam* and *Hindi* movies. Protest against it was weak as there were those who supported it saying that it gave employment to technicians, dubbing artists, writers and gave an opportunity to *Kannadigas* to see lavish and rich movies which could not be produced otherwise. It was during these trying times that Rajkumar gave a momentum to the protest movement by voicing his support against dubbing and vowed only to act in *Kannada* movies.

Since 1960s *Kannada* cinema saw immense growth in terms of market and revenue. There can be no doubt as to who the chief contributor to this development was. Between 1934 and 1961 the number of movies produced in *Kannada* was 131 but in the next 10

years it reached 370 out of which he had acted in 117, totaling a number of 121 movies (K. Puttaswamy, 2009).

It is no sheer coincidence that Rajkumar reached out as a mobilizing factor for the unification of Karnataka in the 1950s, a movement started by literary and cultural leaders. Cinema was able to reach out to the widely dispersed *Kannada* speaking populace. He became the cultural symbol representing the *Kannada* language. If unification movement unified a territory on the basis of language, *Kannada* movies, especially Rajkumar's which were largely cinematic versions of culturally accepted mythologies and popular literature, became a platform for *Kannada* which was non-existent earlier. As stated earlier, the entry of sound, the language as a medium of expression gave a whole new dimension to cinematic narratives, culture and history. In the process of identification with and glorification of shared region, culture, history, *Kannada* became the common, collective factor with cinema infusing visual images for people to foster a sense of oneness. His role in seeking funds during the severe famine of 1961showed the depth of acceptance and reverence of him by the masses. This was one instance where the artists were looked upon with admiration.

Here was somebody who appealed most to the lesser educated middle class and lower sections of society by the projection of values, ideals, aspirations, desires and dreams in the most commonsensical way. It was another fact that *Kannada* and *Kannada* cinema were looked down upon much by the then press and the elite. It was not until the Gokak movement of 1982 that the intelligentsia realized the mass adulation and appeal of the cine star cutting across the populace. The entry of Rajkumar kick started the dormant movement to a statewide protest seeking the enactment of *Kannada* as the medium

of instruction for education in schools, until then the movement was confined to a few protests and petitions to the negligent state government.

Gradually, one sees the evolution of a least educated, rural, backward caste man becoming the symbol of *Kannada*, the cultural icon, the identity of *Kannada* cinema and an undisputed people's leader even though he shunned politics. He not being politically inclined was perhaps one of the major reasons as to why he was held in high esteem by a large number of people. The crest of popularity and iconic status intrigued even the star himself, who was supposedly one of the simplest, humble and down to earth. From wanting a decent education and grammar to being revered as a symbol of *Kannada* language must have humoured the star.

Nevertheless, if cinema created a legend, the legendary status also thrust a representative role upon him which he was unable to shed off. Recollecting his kidnapping by Veerappan, the forest brigand, he shared his inner turmoil with Nedumaran, the Tamil journalist and mediator, about him being a family man and how acting was his vocation, with his world consisting of his children and having least knowledge of the external world (Ganapathi, 2006).

The impact of his death resulted in large scale shut downs and disturbances. It was a way for his adulators, fans to vent out their frustration and anger on the loss of their Hero, apart from the fact that trouble mongers made the best of the chaos. It was a clear indicator that he was not being identified with cinema industry but was also the symbol of *Kannada* and Karnataka.

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Communication Technology and Development – A Study of E-learning Intervention in Engineering Education in Karnataka, India

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Abstract

The present study aims to evaluate the impact of e-learning on engineering students in the State of Karnataka, the silicon valley of India to understand the intervention of communication technology in education. The study selected a random sample of 613 engineering students based on the enrollment registers across 8 engineering colleges that are part of the network of colleges hooked on to satellite based e-learning programs in professional education. On the whole the study establishes that communication technology has given a new model of learning in making the professional education more meaningful and relevant. The integration of technology with conventional method of teaching has given a new instructional model based on the elements of e-learning. The model envisages access, greater degree of participation, student-centric approach, individualized learning and teaching practices. E-learning is a new dependable initiative in teaching-learning process in professional education, says the study.

Key Words*: E-learning, conventional teaching, interactivity, pre recorded video*

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INTRODUCTION

India has 3,393 engineering colleges that can accommodate 1.5 million seats perhaps highest in professional education sector in the recent history with over 65% of colleges situated in South India. Karnataka, one of the four states of South India, is IT bowl of India that has 187 engineering colleges offering 81,432 seats. Karnataka tops in India in the Information technology and bio-technology sectors with about 40% share of annual software export from India. The engineering colleges have increased by leaps and bounds without adequate planning, resources, infrastructure, trained teachers and basic facilities. The quality of engineering education imparted in the colleges across the country has suffered making the graduates unemployable. Chief mentor of Infosys, the global IT giant, Narayana Murthy said that 'quality of the engineering graduates (in India) varied, and only 25 per cent of them were employable as per the McKinsey report. This means that 75 per cent of engineering graduates are unemployable, which calls for improving the quality of technical education' (Murthy, 2006). Faced with significant increase in enrollments, many engineering colleges in India are not adequately equipped leading to deterioration in the quality of technical education. The rapid changes in technology have enhanced the needs and expectations of the students. It is in this perspective India proposed to use EDUSAT, India's first ever-exclusive satellite dedicated to education to facilitate a non-conventional method of teaching and

learning in professional engineering colleges in India. The pilot project conceived in the first phase of EDUSAT has established connectivity among colleges imparting technical education. The networking through satellite has brought in some fundamental changes in the conventional method of teaching in engineering colleges. The present study aims to evaluate the impact of e-learning on engineering students in the state of Karnataka, branded as the IT bowl of India, to evaluate the intervention of communication technology in crucial sector of professional education.

Concept of E-learning

Application of space technology to deal with the problems of education is not new to India. According to the Department of Space, EDUSAT program was launched to provide a sustainable distance education service in India using advanced space technology and ground technology of media convergence. E-learning program under study is a system where Classrooms are linked with teachers via satellite. Initially, in a pilot project e-learning was linked via EDUSAT, India's first exclusive satellite for education, connecting engineering colleges using INSAT 3A. In Karnataka State, the studio where the teaching originates and uplink earth station were located at DSERT, Bangalore, India. The network is interactive consisting of two-way video and two-way audio facility and consists of 1.2 meter antenna installed in engineering colleges. The transmission is either live or recorded with lessons originating from studio-based teacher. Two kinds of classrooms were created such as., one interactive and the other non-interactive with provision for students to use land phone, mobile or e-mail for interaction.

LITERATURE REVIEW

The search for related research studies on e-learning shows that the topic has been widely researched. All studies endorse the hypothesis that e-learning improves learning outcome provided it is supported by adequate infrastructure, learning materials, good governance, qualified teachers and professionalism. Majority of the studies support the contention that e-learning has evoked overwhelming response in educational sector. Research shows that e-learning not only produce promising effects but more 'technology-rich environment delivers greater impacts'(White paper e-learning, 2012). Studies have illustrated that integration of conventional i.e.. face to face classroom teaching and e-learning is comparatively more advantageous to just teacher based classroom teaching or technology aided e-learning (U.S.Dept.of Education, 2010, Global). E-learning has more positive effect due to its learner-centered approach facilitating independent learning atmosphere and would make learners more effective at reinforcing their knowledge besides increasing learner motivation. (Golden, McCrone, Walker, Rudd, 2006). Despite the overwhelming presence of technology, the success of e-learning also depends on some of the fundamental issues like providing a host of new support requirements and resources by the institutions throws insight into the challenges of e-learning (Impact and Challenges of e-learning, 2003). One of the findings says that e-learning will be more effective when teachers are adequately trained to develop skills and improve their confidence in using E-learning 'with implementation varying greatly between subjects and departments' (Harris, Hall, Muirhead, McAteer, Schmoller, Thorpe, 2004). Further the support of leadership and management are crucial in increasing the level of impact on learners (Ibid). There is enough empirical evidence to establish the positive impact of e-learning in medical education. Medical students believe the role of e-learning to be complementary

to conventional teaching rather than replacing lecture methods with students preferring an integration of both to have better learning outcomes. The e-learning intervention in medical education can 'catalyze the shift towards applying adult learning theory, where educators will no longer serve mainly as the distributors of content, but will become more involved as facilitators of learning and assessors of competency' (Ruiz, Mintzer, Leipzig, 2006). There is need for a strong e-learning program in engineering education in Algeria says a study. Nevertheless, the researchers points out that its implementation depends on the adoption of formal and official strategy, participation by the academic community and the extent of support offered by the university in terms of training, software platform, online resource development and impact monitoring and assessment (Benchicou, Aichouni, Nehari, 2010). It calls for fundamental change in the attitude of management, leaders, teachers and learners and demands huge infrastructure and financial support. The new communication technology has influenced change in the model of e-learning improving the process, tools and elements. Cloud computing has become the basis on which a new e-learning model called 'collaborative learning cloud' has been developed to obviously balance the teacher-learner ratio in the present e-learning applications especially in China (Liao, Wang, Ran, Yang, 2013). 'By applying the knowledge modelling technique and the economic model of free market in the collaborative learning cloud, virtual resources can be dispatched in the most reasonable and effective way'. This model has been created to overcome the major barrier in e-learning, the tension between limited instructional resources and too many learning support demands (Ibid). E-learning is a tool of empowering the students as propounded in empowerment model (Harvey and Knight, 1996). In comparison with a conventional system of top down model of lecture method, e-learning

shifts control from teacher to students (Ibid). Researchers have raised issues on quality assurance for e-learning as this method has not been deeply explored and recognized in traditional educational institutions.

METHODOLOGY

E-learning is a new technology that is making inroads into higher education in India. Nevertheless, it is a novel method of teaching and learning with very low percentage of colleges having access to this advanced technology. Given the potentialities of e-learning in creating educational opportunities for students, this study speculates its rapid expansion in colleges in a few years from now. Therefore, this study intends to evaluate the level of awareness, perception and the state of adoption of new technology method of learning in professional education.

Objectives of the Study

1. To evaluate the uses & gratification of e-learning in professional education in general & engineering education in particular.

2. To measure the level of influence of new technology based e-learning on the academic performance of the engineering students

3. To investigate the preferences of the students regurding the method of classroom learning.

This is a survey of 8 engineering colleges in the state of Karnataka. The selection of colleges was based on following criteria:

1. College should be part of EDUSAT e-learning network.
2. College must be telecasting e-learning programs regularly to the students.
3. College must have basic minimum infrastructure to access satellite signals to receive the programs.

4. College must be recognized by the government accreditation bodies.
5. College must be transmitting e-learning programs to students of higher semesters.

Regional representation was considered in the selection of colleges as the state has coastal, backward districts and metropolitan cities. The state of Karnataka has been traditionally divided into 5 regions namely, Mumbai Karnataka, Hyderabad Karnataka, Central Karnataka, Coastal Karnataka and Old Mysore region. Colleges selected have been representative of 5 regions to check regional imbalances. Further, care was taken to select colleges located in both urban and rural areas. The study has given representation to government and privately owned engineering colleges.

A sample of 613 students from 8 engineering colleges was selected on the basis of college enrollment registers through systematic random sampling. Preference was given to those students who were enrolled in higher semesters presuming familiarity with e-learning programs. Survey method was found most appropriate for a study of this nature. A questionnaire consisting of 45 questions classified under 4 broad categories with open ended and close ended questions was designed to gather data on the basis of research questions. Some of the questions used Likert scale to elicit the opinion of students. Students also had freedom to express their opinion in their own words in open ended questions. Questionnaire was subjected to pilot test.

FINDINGS AND DISCUSSION

Socio Demographic and Economic Profile

The sample consists of 613 students selected from 8 engineering colleges across the state representing all regions. The sample of students

varied from college to college as it was proportionate to the total enrollment of respective colleges. Further, sample size consisted of 3.4% - 8.6% students from each college with emphasis on specific semesters which had access to e-learning programs. Gender wise sample consists of 59.9% males and 40.1% females. A majority of students, 97.2% of students are in the age group of 18-24 years. A small percentage (2.6%) are of 25-34 years. However, there is no significant relationship between age and gender (χ^2=5.917; d.f = 2; p > 0.05. NS) as far as students of professional education are concerned. That means to say that age and gender are independent of each other. Majority (99.5%) of them are enrolled for Bachelor of Engineering course. Breakdown on religion indicates highest percentage of students (88.3%) are Hindus whereas Muslims and Christians constitute 4.4% and 4.1% respectively. The economic background of the students show that more students come from middle class families (43.7%), and lower middle class families (28.4%) but few represent high income families (17.8%).

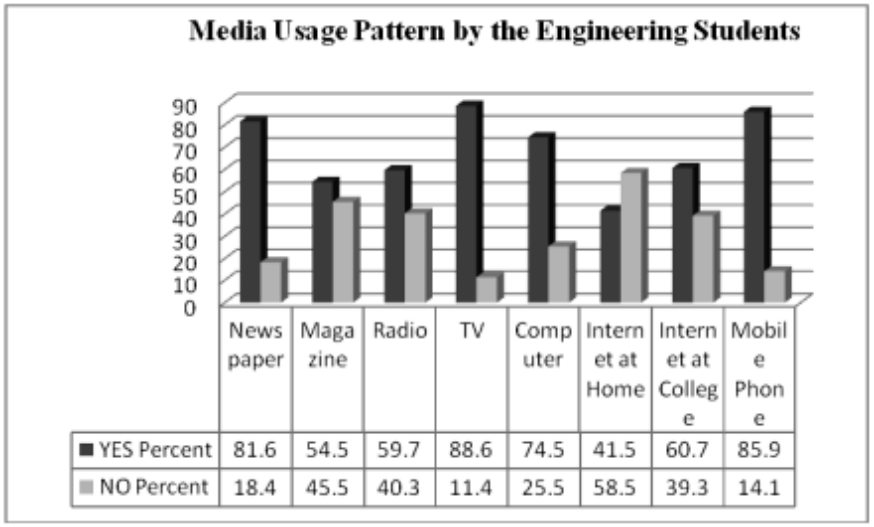
Media Usage

TABLE-1

Media	YES		NO	
	f	Percent	f	Percent
Newspaper	651	81.6	146	18.4
Magazine	434	54.5	361	45.5
Radio	476	59.7	321	40.3
TV	706	88.6	91	11.4
Computer	594	74.5	203	25.5
Internet at Home	331	41.5	466	58.5
Internet at College	484	60.7	313	39.3
Mobile Phone	685	85.9	112	14.1

Media Usage Pattern by the Engineering Students

Graph -1



The media usage pattern reveals that highest percentage of engineering students use TV (87.6%) followed by mobile phones (85.5%) and newspapers (80.1%) establishing that engineering students read newspapers despite their equally high exposure to TV and mobile phones. Neither TV nor mobile phones have come in the way of influencing the newspaper reading habits among students. However, access to Internet at home is limited to 41.6% which is less than other media as India has low diffusion of Internet. Interestingly, access to Internet in college at 58.9% also shows that there was no access to Internet facility in some of the engineering colleges under study.

There is no significant relationship between age and media usage says the study. Newspaper ($\chi^2 = 10.25$; d.f = 6; $p > 0.05$; NS), Radio ($\chi^2 = 4.22$; d.f = 6; $p > 0.05$; NS), Television ($\chi^2 = 5.35$; d.f = 6; $p > 0.05$; NS) and Internet ($\chi^2 = 2.15$; d.f = 6; $p > 0.05$; NS) media are independent of age. Irrespective of age, students show a common pattern in the use of these media. Reading newspapers, watching

television, listening to radio and using Internet do not depend on one's age among engineering students.

Newspapers, magazines, radio, computer, Internet at home and mobile phone usage pattern is related to family income says the study. Newspapers ($\chi^2 = 38.637$; d.f = 4; $p < 0.001$), magazines ($\chi^2 = 42.533$; d.f = 4; $p < 0.001$), radio ($\chi^2 = 19.018$; d.f = 4; $p < 0.005$), computer ($\chi^2 = 38.242$; d.f = 4; $p < 0.001$), Internet at home ($\chi^2 = 45.681$; d.f = 4; $p < 0.001$) and mobile phone ($\chi^2 = 14.244$; d.f = 4; $p < 0.05$) usage are significantly related with the family income. However, Television ($\chi^2 = 4.793$; d.f = 4; NS; $p > 0.05$) and Internet at college ($\chi^2 = 9.031$; d.f = 4; NS $p > 0.05$.) usage is independent of family income of the students. That means, irrespective of family income students access TV and income has no bearing on the use of Internet at college. The major findings reveal that age is independent of media exposure among students. There is no relation between age and exposure to newspaper, radio, TV and Internet. However, the media exposure consisting of exposure to newspaper, radio and Internet at home, is correlated with the family income says the study. Nevertheless, access to TV and Internet at college is not correlated with the family income as there is increase in the penetration of TV among low income households in India. TV (63.83%) is the primary source of news among engineering undergraduates followed by Newspaper (55.82%). Students don't get all their news from Internet (44.78%) says the finding reflecting a low penetration of Internet in India. An estimated 251.59 million (20%) people including 68 million in rural areas use internet in India that accounts for 8.33 % of India's share of world Internet users. Of the total Internet users in India, almost 90 percent access the Internet through mobile phones thus bridging the digital divide to a great extent.

E-learning analysis

Graph-2

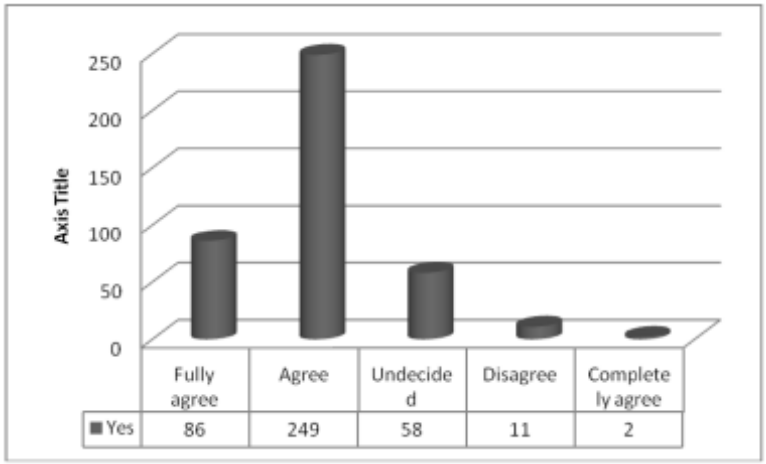


Figure 2 ***E-Learning is Beneficial to Engineering Education***

Table-2

Benefitted from VTU E-Learning Course	Extent of learning through E-Learning Mode							Total
	100%	75%	50%	40%	25%	10%	0%	
Yes	13	84	113	89	42	23	42	406
No	0	8	15	16	19	30	119	207
Total	13	92	128	105	61	53	161	613

x^2 204.99;d.f = 6; $p < 0.001$

Table-3

Benefitted from VTU E-Learning Course	*Satisfaction with E-Learning Teachers*				Total
	Satisfied to great extent	*Satisfied to some extent*	*Not Satisfied at all*	*No Answer*	
Yes	44	304	57	1	406
No	6	55	142	4	207
Total	50	359	199	5	613

$\chi^2 = 195.72$; d.f = 3; $p < 0.001$

Table-4

Benefitted from VTU E-Learning Course	*Satisfaction with E-Learning Programme*			
	Satisfied to great extent	*Satisfied to some extent*	*Not Satisfied at all*	Total
Yes	76	284	46	406
No	13	67	127	207
Total	89	351	173	613

$\chi^2 = 169.99$; d.f = 2; $p < 0.001$.

The model of e-learning imparts good quality education says the study. Over 50% of the syllabus has been learnt through e-learning mode (χ^2 204.99; df = 6; $p < 0.001$). However, 100% teaching – learning through the present model is difficult to accomplish owing to major bottlenecks in the system. Rather than getting fully satisfied with e-learning, students felt that they are satisfied to some extent only ($\chi^2 = 195.72$; df = 3; $p < 0.001$) owing to problems of governance, dearth of administrative support and limited technical assistance. Nonetheless, despite inherent problems, students have accepted and expressed their desire to learn through this mode of learning ($\chi^2 = 169.99$; df = 2; $p < 0.001$).

Table-5

Use of Internet	*Benefitted from VTU E-Learning Course*		Total
	Yes	No	
Daily (7 days a week)	165	84	249
Frequently (4-5 days a week)	63	37	100
Occasionally (2-3 days a week)	46	25	71
Rarely (Once a week)	132	61	193
Total	406	207	613

$\chi^2 = 0.937$; d.f = 3; $p > 0.05$. Not significant

Table-6

Benefitted from VTU E-Learning Course	E-Learning as alternative to Classroom Teaching		Total
	Yes	No	
Yes	360	46	406
No	120	87	207
Total	480	133	613

$\chi^2 = 76.052$; d.f = 1; $p < 0.001$.

The study shows that Internet usage has not influenced e-learning by the students. Irrespective of their Internet usage pattern students have derived benefits from e-learning programs ($\chi^2 = 0.937$; df = 3; $p > 0.05$. NS). Both Internet and non Internet users have participated and used e-learning material in their studies. E-learning model could be an alternative model of teaching-learning says the study ($\chi^2 = 76.052$; df = 1; $p < 0.001$).

Table-7

	Alternative to conventional teaching		Solves Shortage of Teachers		
Benefits of E-Learning	Yes	No	Yes	No	Total
Yes	360	46	340	66	406
No	120	87	138	69	207
Total	480	133	478	135	613
$\chi^2 = 96.91$; df = 4; $p < 0.001$			$\chi^2 = 23.28$; d.f = 1; $p < 0.001$		

Correlation between Benefits of E-Learning and Pattern of Usage

The study establishes that e-learning can overcome shortage of good teachers ($\chi^2 = 23.28$; df = 1; $p < 0.001$), it can complement

conventional teaching ($\chi^2 = 96.91$; df = 4; $p < 0.001$) and it can compensate for the lack of resources in professional education(($\chi^2 = 134.35$; df = 4; $p < 0.001$). The networked learning has provided abundant opportunities for solving the problems of the high profile engineering education.

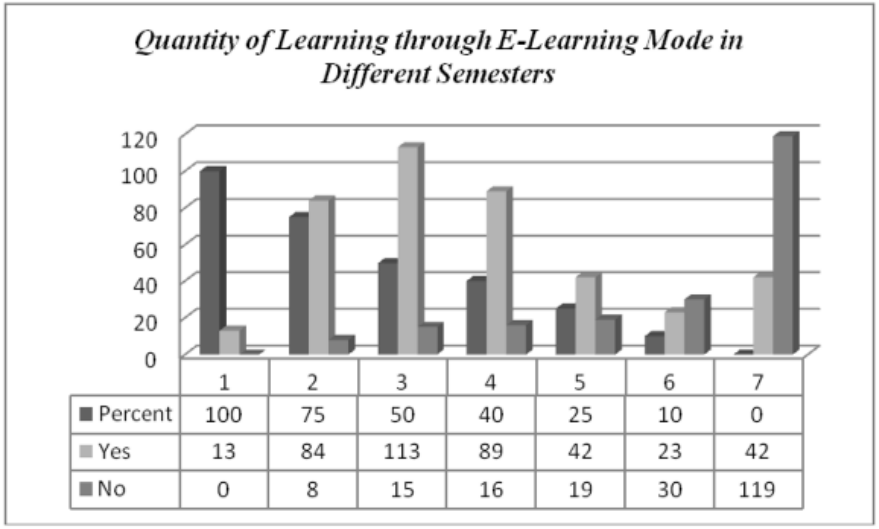
Regarding the mode of e-learning there is consistently good performance when students were exposed to live telecast ($\chi^2 = 123.37$; df = 1; $p < 0.001$) of lectures rather than pre-recorded video lectures ($\chi^2 = 5.41$; df =1; $p > 0.05$).

Table-8

Benefitted from VTU E-Learning Course	Extent of learning through E-Learning							Total
	100%	75%	50%	40%	25%	10%	0%	
Yes	13	84	113	89	42	23	42	406
No	0	8	15	16	19	30	119	207
Total	13	92	128	105	61	53	161	613

χ^2 204.99; d.f = 6; $p < 0.001$.

Graph – 3



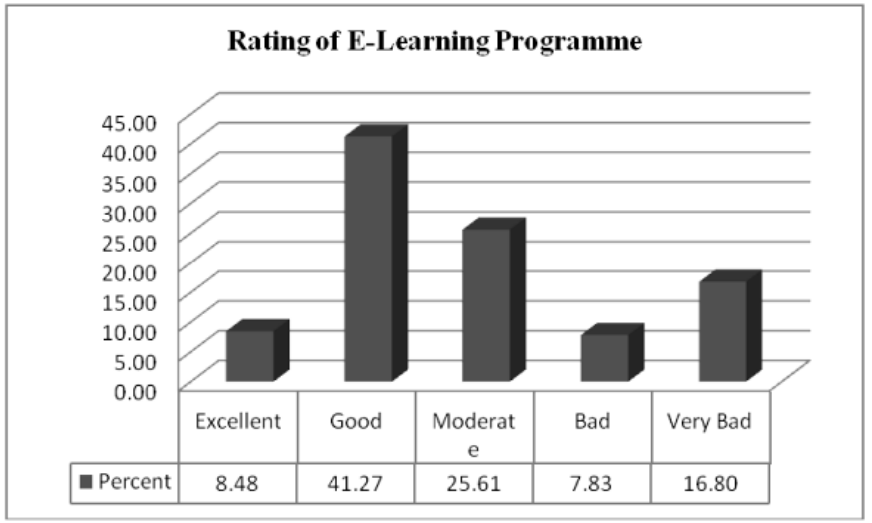
Of the different forms of e-learning, Full semester program (χ^2 = 131.91; d.f = 8; p < 0.001.) was more productive than supplementary, single lesson program and exam-revision service. It is comparatively more effective to have e-learning in semester program (χ^2 = 79.22; d.f = 4; p < 0.001). Further those who have accessed e-lessons in full semester have vouched for the good quality of content rather than those who accessed them occasionally (χ^2 = 225.76; df = 16; p < 0.001).

The study shows that learning even through e-learning mode depends on the level of performance in the studies. There is correlation between the use of e-learning process and the level of academic performance. Students who have consistently used e-learning resources have improved their performance. (χ^2 = 129.81; df = 2;p < 0.001). There is correlation between student's method of learning and e-learning (χ^2 = 181.54; df = 2; p < 0.001).

There is no consistency in the students' exposure to e-learning content. The highest exposure is in the category of once a month (35.07%) followed by 2 hrs per day (23.81%), 3 hrs per day (18.43%), 1 hr per day (9.46%), once a week (6.85%) and 4 hrs per day (6.36%). There is correlation between the duration of the course and the type of e-learning. Students with Full semester access prefer live lectures to those with partial exposure to e-resources (χ^2 = 306.97; df = 16; p < 0.001 ;) denoting that consistent exposure enables students to choose the better mode of learning. Further there is significant relationship between the duration of the course and the amount of learning through e-mode. Students with Full semester exposure have comparatively performed extremely well than those who had partial exposure (χ^2 = 327.17; df = 20; p < 0.01;) establishing that the usage of e-learning mode calls for consistency for recognition and acceptance in the

conventional college system. Students have been more active in the live telecasts and the degree of interactivity is very high in such programs. The study reveals that students have not used mobiles, e-mails and letters to interact with the e-experts. There is no post learning activity after the e-learning programs which is scientifically required in a systematic teaching-learning process. As far as quality of educational content is concerned, students have rated it as very good (6.52%), good (40.61%), neutral (26.91%), poor (7.83%) and very poor (18.1%) where good outscores other levels.

Graph - 4



Students have rated the performance of e-learning programs in their respective colleges as very good (8.48%), good (41.27%), average (25.61%), very poor (16.8%) and poor (7.83%) with over 50 per cent of them recognizing e-learning programs as good in professional education like engineering.

The study opines that the model of e-learning propounded by VTU (*Vishveshwariah* Technological University) gives expected

deliverables if the bottlenecks are fixed. The system is plagued by poor technical support (73.4%), dearth of adequate resources (71.77%), quality of e-learning programs suffers due to technical reasons (60.35%), lack of monitoring and periodic evaluation (75.53%) and there were lapses in attendance maintenance (81.72%). Majority of the colleges have failed to convey information (86.62%) periodically about e-learning modules to the students says the study. Surprisingly, the interactive e-learning platform has low level of interaction between students and experts as the study shows that students have hesitated to use telephone, e-mail, letters or mobile phones for interaction owing to novelty of the mode of learning. The opportunity provided by the e-platform to enhance their performance through interaction during post e-program telecast has not been utilized by the students owing to ignorance or non- availability of specific information. Most of the respondents (74.87%) have expressed their displeasure at not getting enough motivation from the teachers to participate in e-interaction. Many respondents (33.7%) are disappointed that coordinators are9 irregular in visiting e-classrooms. College management has not distributed the e-learning time schedules (62.47%), feedback forms (73.89%) and learning materials (89.39%) among teachers and students. Many students are dissatisfied (62.15%) at their teachers failing to help them solve the problems faced in e-lessons whereas 33.84% of students have got their problems solved improving their learning outcome. It establishes that teacher's positive and consistent intervention will complement e-learning mode helping students with varying degrees of learning abilities.

The study shows that e-learning as practiced by the colleges suffers from seething problems. According to the survey the fixing of major hurdles in the colleges viz., lack of proper seating arrangement

(59.38%), lack of multimedia projectors (55.79%), no access to telephones (92.16%), lack of alternative power system (83.36%), inadequate computer systems (78.46%) and limited access to Internet (80.26%), could have improved the overall impact of the e-learning program.

On the downside, students feel that experts in e-lessons are not using technology to the optimum extent. According to the respondents, despite the availability of different assistive technologies teachers have not used Digital Tablet (92.92%), White Board (82.05%), Power Point (68.35%), Text Mail or Voice Mail (95.59%) and MMS (93.14%) in e-lessons. Instead pre recorded video lectures with talking heads is the mode predominantly used in most of the e-teaching. Therefore, there is no significant relationship between quality of learning and the some of the specific electronic teaching devices viz., Digital tablet ($\chi^2 = 6.20$; df = 4; $p > 0.05$; NS), White board ($\chi^2 = 43.44$; df = 4; $p < 0.001$; NS), Text mail and Voice Mail ($\chi^2 = 3.55$; df = 4; $p > 0.05$; NS) and File Download ($\chi^2 = 3.50$; df = 4; $p > 0.05$; NS).

However, one finds significant relationship between quality of teaching and the specific teaching aids like power point presentation ($\chi^2 = 42.18$; d.f = 4; $p < 0.001$) and use of flash animation in content presentation ($\chi^2 = 37.50$; d.f = 4; $p < 0.001$;). There is significant relationship between live lecture mode and quality of learning ($\chi^2 = 80.92$; d.f = 4; $p < 0.001$) establishing that live interactive programs are more effective than pre-recorded lecture programs. Live lecture mode is closer to classroom conventional teaching which students can easily relate, recognize and participate naturally in the learning process. The increase in the quality of teaching is also attributed to use of interactive methods of teaching in e-learning ($\chi^2 = 22.91$; df = 4; $p < 0.001$). The high diffusion of mobile phones among students

has not intervened in enhancing learning in e-classrooms despite provision for its use in the system. Globally today there are efforts to use Mobile phones as learning tools in open education system. But the present finding calls for revisiting and reexamining the process of communication through mobile phones.

CONCLUSION

On the whole the study establishes that communication technology has given a new model of learning in making the professional education more meaningful and relevant. Usage of e-learning mode calls for consistency for recognition and acceptance in the conventional college system. Students have been more active in the live telecasts and the degree of interactivity is very high in such programs. The integration of technology with conventional method of teaching has given a new instructional model based on the elements of e-learning. The model envisages access, greater degree of participation, student-centric approach, individualized learning and teaching practices. E-learning is a new dependable initiative in teaching-learning process in professional education, says the study.

Distribution of Sample by Demographic Variables (n- 613)

Variable	F	%
Gender		
Male	367	59.9
Female	246	40.1
Age		
18-24	596	97.2
25-34	16	2.6
35>	1	0.2

Religion		
Hindu	541	88.3
Christian	25	4.1
Muslim	27	4.4
Sikh	1	0.2
Others	19	3.1
Income		
< Rs.8000	62	10.1
8001-15000	174	28.4
15001-25000	125	20.1
25001-35000	143	23.3
35001 >	109	17.8
Profession		
Doctor	61	10
Engineer	91	14.8
Scientist	14	2.3
Advocate	14	2.3
Teacher	71	11.6
Housewife	21	3.4
Business	102	16.6
Farmer	81	13.2
Others	158	25.8
Education		
B.E.	610	99.5
B.Tech	3	0.5
Colleges		
AIT Chikmagalur	94	15.3
MIT Dakshina Kannada	90	14.7
SDM Dakshina Kannada	21	3.4
VVIT –Mysore	98	16
VVEC- Mysore	79	12.9
SDM – Dharwad	114	18.6
GEC – Kodagu	81	13.2
TEC – Gadag	36	5.9

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