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e-Governance in India: Issues and Challenges

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Abstract *Human resources are the driving force of any organization. The employee workforce, as the main drivers, remain in the 'supply side' of e-Governance applications. Therefore, they need to be equipped with the right aptitude (skill), perception (understanding), attitude (desire), and the motivation to move toward changes. e-Governance involves the application of Information and Communication Technology by government agencies for information and delivery of services to citizens, businesses, and employees. This paper focuses on certain HR issues in e-Governance. It makes a case in favor of implementing thoughtfully designed Human Resource Management strategies in consonance with the changing organizational and employee needs. Application of ICT also makes it essential for an organization to become a learning organization, as these technologies are characterized by continuous change. An attempt is made to investigate the preparedness of employees of Berhampur University, particularly with the entry-level, mid-level, and senior-level employees, to provide a general insight into their levels of aptitude, awareness, and attitude toward e-Governance. It also explores the preparedness, and how the employees of Berhampur University show considerable support for e-Governance with their interest and adaptability to new technologies, and their levels of awareness and attitude toward e-Governance. The study also explores the low level of ICT aptitude. Besides, use of ICT by the official employees is often limited to word processing and other relevant applications.*

Keywords *e-Governance, ICT, Human Resource Management, Aptitude, Awareness, Attitude*

INTRODUCTION

e-Governance plays a vital role in the era of modern information technology. The application of information and communication helps us in the processes of government interaction with citizens and businesses, as well as in the government's internal operations, with the objective of ensuring the highest standard of services to the citizens. This is carried out by providing instant access to selected government information and interfaces for communicating with the various government functionaries, wherever and whenever they need it (Gartner, 2000. www.nic.in). e-Governance goes beyond the service delivery aspects and is seen as a decisional process. The use of the system of governance may involve multi-stakeholders in decision-making for open and accountable responsibility. The stakeholders may be the government, investors, employees, vendors, intermediaries, and citizens. According to Ray and Dash (2005), e-Governance should include the aspects of internal working which cover the application of Information Technology to increase efficiency and effectiveness of internal functions, internal communications, and internetworking. e-Governance is an intermediary between the work of the public offices and the beneficiary. Other forms of e-Governance may include t-business, government to government and government to employees channels.

The country's affairs mainly depend on various exercises of political, economic, and administrative authority in management. The performance of e-Governance is made via electronic media to facilitate speedy, efficient, and transparent process for disseminating the information to the public. This leads to increased efficiency in various government processes, transparency and anti-corruption checks in all transactions, and the empowerment of citizens. A statistical analysis of the stakeholders of a group has been undertaken.

- 15% are successes – most stakeholder groups attained their major goals and did not experience significant undesirable outcomes.
- 50% are partial success/failures – major goals for the initiatives were not attained and/or there were significant undesirable results.
- 35% are total failures – the initiatives were never implemented or was implemented but immediately abandoned.

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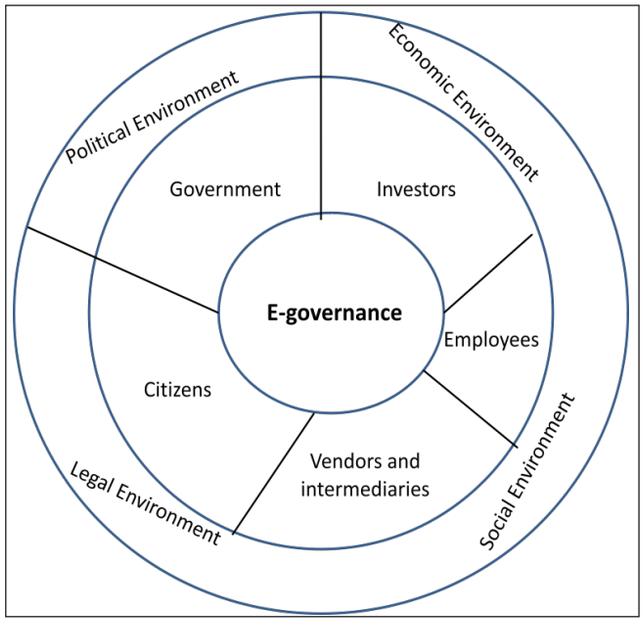

Fig. 1: Variables in e-Governance

e-Governance offers a wide platform of social contract with three parties – the public at large, the government, and businesses (UN, 2003). One of the requirement is the readiness of the public managers as the driving force behind the e-Governance application. The transformation from traditional governance to e-Governance is only possible if the public management system is prepared and people are enabled for the control, transmittal, and proper use of information and resources, where e-Participation of various actors is important for good governance. The system of e-Governance requires an adequate access to modern technology and the ability to reconstitute the mechanism. For proper implementation of e-Governance and to avoid risk of resistance, motivation and effective participation of public officials are prerequisites. This paper is an attempt to investigate the supply side's preparedness to deal with the groups of entry-level, mid-level, and senior-level public officials working in Indian Service-40; the study provides a general insight into their level of aptitude, awareness, and attitude toward e-Governance.

BACKGROUND

For effective implementation of e-Governance within the IT department/IT mission and individual departments, there is need for specialized skills. There is a need for HRD employees at all levels within departments to utilize Information Communications and Technology (hereinafter, ICT) for better delivery of services, computer operating skills, and behavior skills. Integration of service delivery, reduction of redundancies, and standardization are responsible for the strategy, structure, and system of e-Governance.

e-Governance is the use of technology to enhance access or delivery of government services to benefit citizens, business partners, and employees (Silcock, 2001). Thus, it presents the prospects of better and cost-effective service delivery and greater citizen empowerment (UN 2003, Smith and Teicher, 2004) The main goal of e-Governance is the promotion of engagement of people and other stakeholders in public policy making and implementation (Clark, 2003). Deployment of technology and building connectivity are the key areas for successful performance of e-Governance.

Lodge (2003) articulates that e-Governance is a powerful devise, which is devoid of political meaning; it is an information server to the community. Adequate human resource capability is needed to co-ordinate the internal and external service factors to handle the demand for services (Wimmer, 2002).

E-GOVERNANCE PLAN IN INDIA

India has a major e-Governance plan, which was a major part of the tenth national plan and endorsed by the Prime Minister's Office since 2003. This plan consists of Central and State level projects for development. Figure 2 shows some of the services provided by the Government of India. Some preparatory initiatives have been taken to implement e-Governance practices at various levels of public management systems. For successful implementation of e-Governance initiatives, one should know the answers to the following:

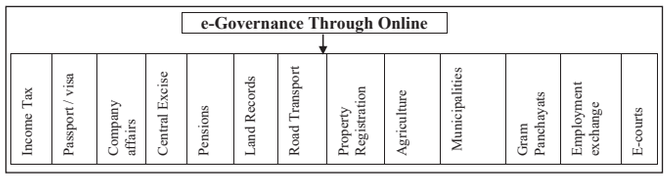

Fig. 2: Different Online Services Provided under the e-Governance Plan

IMPLEMENTATION OF VARIOUS ISSUES

Any organization mainly depends on human resources. The public workforce, as the main drivers, are the 'supply side' of e-Governance. Planning, designing, and implementing any e-Governance initiative with the right aptitude (skill),

perception (understanding), attitude (desire), and the motivation to move forward with changes is important. A competent and well-motivated public administration lies at the core of good government (World Bank, 2002). People engaged in the public service need to realize and refresh the inner driving force for a meaningful contribution to society.

On the other hand, negative attitude acts like critical resistance against organizational changes, whereas a positive attitude can become a powerhouse for such changes. Lack of confidence, knowledge, or skill among the workforce pushes them to a negative attitude. Inadequacy of funds, infrastructural issues, inadequate manpower, citizen readiness, data backlog, legal framework readiness, maintenance, and so on are some of the hindrances to implementing e-Governance. e-Governance in India is a rapidly growing segment in three southern states (Andhra Pradesh, Karnataka, and Tamil Nadu), making significant progress in the wake of information technology.

Demand for modern technologies provokes a new way of thinking about service and business process design, the development of new skills, the application of traditional skills more effectively, and a more flexible approach to working patterns and practices. Cultural barriers exist at the employee level, officers' level, and political level (Sharma & Palvia, 2004). Team work, empowerment, trust, and sharing is important, as opposed to the closed, rigid, and mechanistic bureaucratic structure of government organizations. An e-Organisation needs to focus on the following categories (www.fareham.gov.uk) – develop customer orientation (understand the needs of the user); find new ways of presenting information to meet customer and not employee needs; design feedback mechanisms; manage customer relationships; streamline processes; communicate better, organise information; work more flexibly; and make better decisions to co-ordinate activities better. Keeping the above requirements in view, the key issues that need to be addressed may include: undertaking job analysis again to redefine job responsibilities and job dimensions of various jobs affected by the change. The recruitment and selection process has to be redesigned in view of the changing manpower needs. The identification of competencies of technological environment to enable all employees to operate effectively in a fully electronic working environment; developing a performance management program that would incorporate change in job responsibilities and requirements, and listing development oriented goals are important. In addition to effective implementation, changes in decision making processes, involving faster decision mechanisms, less 'red-tape', and changes in the organization structure, making it flatter, with a higher delegation of authority is required (Garg & Khataokar, 2003).

OBJECTIVES

Following are some of the objectives to supply side preparedness, especially at different levels (entry-level, mid-level, and senior-level) of public officers to provide insights to their status in terms of ICT aptitude, awareness, and attitude toward e-Governance in India.

- To create appropriate organizational structure for the smooth and time-bound implementation of e-Governance projects.
- To make available appropriately skilled personnel at various levels in departments as well as within the IT department for effective e-Governance.
- To improve the participation of departments in the e-Governance program and to ensure integration of service delivery.
- To ensure standardization of technical and service delivery parameters.
- Determine the number of trained and non-trained officials and their level of ICT skill.
- Assess their level of aptitude, awareness, and attitude toward e-Governance.

RECOMMENDATIONS FOR MEETING CHALLENGES

The methodology adopted helps to determine the most appropriate kind of organizational structure for the implementation of e-Governance in the state. The specific role of each factor, induction of personnel, and undertaking appropriate capacity building of the personnel has to be defined.

The study is mainly an exploratory one and uses qualitative and quantitative data collected from primary and secondary sources. A survey among 250 students of the departments throughout the university has been conducted. A sample technique has been adopted to select the respondents. These respondents are mainly selected from the 1st, 2nd, 3rd, and 4th semester students and a group of faculty members of Berhampur University. Actual number of respondents from different levels are as follows:

Table 1: Distribution of Respondents by Levels

Levels	Number	Percentage (%)
1st Semester Students	138	55.2
2nd Semester Students	56	22.4
3rd Semester Students	56	22.4
Total	250	100

Source: Primary data

TOOLS AND TECHNIQUES

Primary data with respect to IT training, IT operational skills of the respondents, availability of ICT around them, use of ICT, their awareness, perception, and attitude toward e-Governance, and so on were collected. Descriptive analysis based on simple and cross tabulation, arithmetic average, frequency distribution, mean, range, standard deviation, and so on have been used to provide output of different points of investigation, such as availability of technology, connectivity, ICT training, ICT trained employees, PC user employees, and so on. Categorical scales were adopted to assess the levels of aptitude, awareness, and attitude. Specific levels of awareness and attitude have been categorized with the following as the measurement scales.

Low level: > Mean – Standard Deviation

Moderate level: < Mean ± Standard Deviation

High level: < Mean + Standard Deviation

SCOPES AND LIMITATIONS

The supply side of e-Governance in terms of their ability and willingness toward using available technologies, and various other issues such as re-engineering, demand side readiness, and so on, remain beyond the scope of this research. With the limitations regarding scope and sample size, the survey process of the study deals with the views of the respondent semester students and faculty members only. Their supervisors were not consulted, which is another limitation of the study.

E-READINESS FOR THE INDIAN OBSERVERS

The data collected through Berhampur University students as well as faculty members observes that out of 250 semester students of Berhampur University, about 55.2% have received formal training in ICT. With respect to ICT training, significant differences are not prevalent among the three levels of students. Almost all of the training courses received by the students are concentrated on basic literacy. In most of the cases, the government has provided the training for students; nevertheless, 22.4% of ICT-trained personnel have received training through self-initiatives.

Table 2: Distribution of Respondents by Levels

Levels of Students	Training in ICT		Total
1st Semester Students	83 (59.8%)	55 (40.2%)	138 (100%)
2nd Semester Students	27 (48.0%)	29 (52.0%)	56 (100%)
3rd Semester Students	30 (54.0%)	26 (46.0%)	56 (100%)
4th Semester Students	140 (55.9%)	110 (44.1%)	250 (100%)
			(n = 140)
Distribution of ICT Training by Gender (%)	Male	Female	
	79.8	20.2	
ICT Training by Course (%)	Basic ICT Literacy	Degree and Above	
	92.7	7.3	
Distribution of ICT Training by Home and Aboard (%)	Home	Abroad	
	93.5	6.5	
Sponsored ICT Training	Government Sponsored	Self-sponsored	
	76.6	23.4	

Source: Primary data

ICT OPERATIONAL SKILLS

Among all respondents, 57.2% students have ICT operational skills. On comparison, 1st semester students stand ahead with respect to ICT skill, whereas 2nd semester students lag behind. It is studied that 68.8% of the 1st semester students, 40% of the 2nd semester students, and 46% of the 3rd semester students possess ICT operational skills.

Table 3: Distribution of ICT Operational Skills by Semester

	ICT Operational Skill		Total
	Yes	No	
1st Semester Students	95 (68.9%)	43 (31.3%)	138 (100%)
2nd Semester Students	22 (40.0%)	34 (60.0%)	56 (100%)
3rd Semester Students	26 (46.0%)	30 (54.0%)	56 (100%)
All	143 (57.2%)	107 (42.8%)	250 (100%)

Source: Primary data

INFORMAL TRAINING FOR ICT

As indicated by the respondents, 57.2% of the students can operate a computer, which is 1.3% higher than the percentage of IT trained personnel. It represents a growth through informal training. The growth is not significant when compared to aggregates of the students who are

trained in ICT and who can operate computers. However, when considered with the levels of students, an 8% decline can be observed among 2nd semester students. In contrast, among the 1st semester students, a 9% increase is observed. This observation demonstrates an existing informal training among 1st semester students toward change and innovation that might be considered an added strength for the e-Governance movement in the country.

LEVEL AND TYPE OF IT PROFICIENCY

Table 4 indicates the level and type of IT proficiency among IT literate respondents. When they were offered a five-point categorical scale to evaluate their own proficiency level in eight specific types of software, as well as an open type ('others'), 20.5% of them explained that they were not able to work with any other software except word processing. They further tend to show a concentration of their skill on four types of application, namely, word processing, spreadsheet analysis, presentation, and browsing the Internet. Further the table shows that most of the respondents do not have aptitude in statistical work, database management, or in any other advance use of ICT.

The situation indicates that in most cases students are found to focus on word processing, Internet browsing, and preparing presentations, with a high concentration on the first one. However, with respect to skill, almost 52% of the IT literate respondents found that they do not find their own skill sufficient to perform daily work, 38.6% observed that their skill was sufficient for performing daily work, and 9.4% evaluate that their skills remain underused.

Table 4: Level and Type of IT Proficiency among IT Literate Students

Type of Skill	Level of Skill				
	Excellent	Good	Working	Little	No
Word Processing	14.2	23.6	50.3	11.8	0
Excel Sheet	4.7	15.0	35.4	24.4	20.5
Software/Statistical Packages	0	5.5	8.7	10.2	75.6
Database Management	0	8.7	12.6	25.2	53.5
Project Management	0	0	0	5.5	94.5
Graphical Presentation	7.1	15.7	32.3	19.7	25.2
Internet Programming	7.9	18.3	34.6	14.2	24.4
Others	0	2.3	6.3	7.9	83.5
	0	0	0	6.3	93.7

Source: Primary data

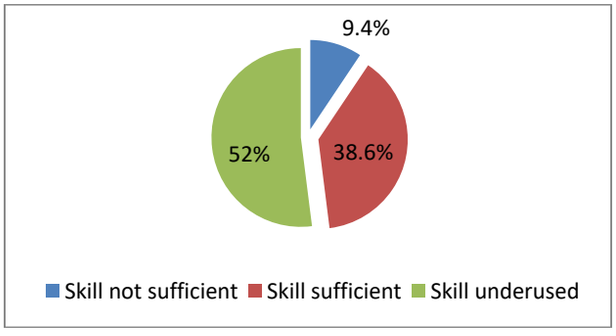

Fig. 3: Views of the Respondents with Respect to their Own ICT Skills

STUDENTS' APTITUDE LEVEL

Calculating the respondents' individual data on IT proficiency, the general level of IT aptitude is evaluated through scores. Classes in scores and corresponding levels of aptitude are shown in Table 5.

Table 5: Frequency Distribution by Individual Scores and Aptitude Level

Score	F	%	Level of Aptitude
1-5	60	47.2	Low
6-10	30	23.6	Moderate
11-15	18	14.2	Moderate
16-20	12	9.5	High
21-26	7	5.5	High
Total	143	100.0	--

Source: Primary data

Distribution of individual scores shows that 47.2% of the IT literate students fall in the 'low level of aptitude' category. This group has a maximum score of only five. This means that they are not able to manage three types of applications

at a working proficiency level and possess a low level of IT aptitude. Efforts are made to supplement training, which is necessary for this group to improve their aptitude level. About 38% of IT literate officers (21.6% of total respondents) show a 'moderate level of aptitude'; members of this group hold an equivalent ability of managing at least three types of computer applications, and for each type, they have no less than a 'working' level of proficiency. These students are expected to be able to inflate their present level of competence by themselves as well as gradually adapt to further technological applications and changes in their official activities. They are, therefore, ready for e-Governance applications. About 15% of the 'IT literate' (8.6% of total respondents) personnel possess a 'high level of aptitude'. Students within this group have the ability to handle a minimum of 4.5 types of applications, with an 'excellent' level of proficiency for each type.

AVAILABILITY AND USE OF ICT AMONG STUDENTS

Availability

Regarding availability, of the total respondents 27.5% have individual PCs in their own hostel room. Additionally, 15.3% have access to computers that are under someone else's jurisdiction or located elsewhere in their respective hostel room, and can get their important work done on them. These figures disclose that in Berhampur University students have about 42.8% access to computers, either directly or indirectly. Only 15.3% of the respondents convey that LAN exists in their respective laboratories. On the other hand, 66.7% indicated that their hostel rooms have facilities for connecting to the Internet. However, only 26.6% respondents have their own PCs which are connected to the Internet.

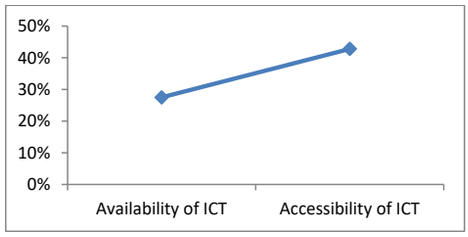

Fig. 4: Availability and Accessibility of ICT

WORKING OFFICERS OF BERHAMPUR UNIVERSITY

Among IT literates, 22.8% students do not use computers because of the absence of or limited access to technology or because of they can get work done with the help of their supporting staff; another 9.4% do not use it because of lack of confidence or they do not feel that it is convenient to use the computer. With that note, the use of PCs by students in the hostel room can be calculated as 67.7% among IT literates and 38.7% among the total respondents.

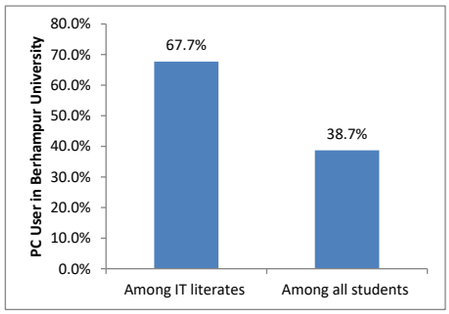

Fig. 5

With the statistics mentioned above, a 15.3% rise in terms of accessibility can be recorded compared to the availability of ICT in Berhampur University. At the same time, a 4% decline is noticeable if the statistics of accessibility of ICT is compared to the statistics of PC users in the hostel room. However, an encouraging escalation (11.2%) can be observed if the statistics of availability of ICT and users of ICT are compared together. It indicates a positive trend of interest and mind-set toward the adaptation of ICT.

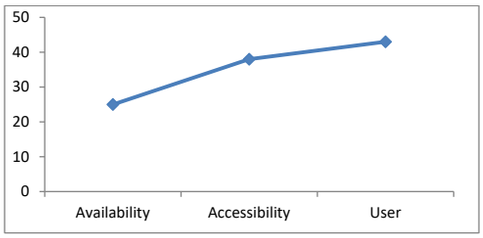

Fig. 6a: PC Users Compared to Availability and Accessibility

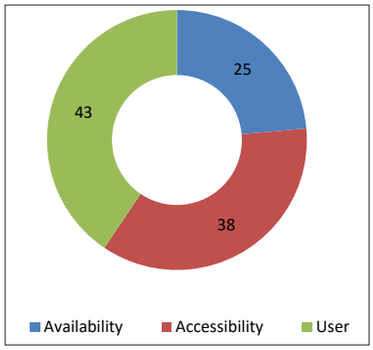

Fig. 6b: PC Users Compared to Availability and Accessibility

READINESS FOR E-GOVERNANCE

Aptitude

It is revealed from the study that about 30.2% of the sample has an aptitude level of managing technological applications of e-Governance. Among them, 8.6% of the total respondents have an advanced level of IT aptitude; they can contribute to introducing e-Governance. On the other hand, almost 70% of the members of the semester students are not currently in a position to manage technological applications.

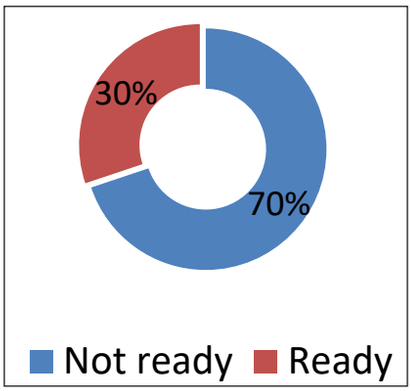

Fig. 7

Awareness

To evaluate awareness levels, individual responses were coded into five-point values, and then individual scores were calculated. Based on the calculated scores, the awareness levels of respondents are shown in Table 6.

Table 6: Level of Awareness about e-Governance

Levels	Level of Awareness		
	High	Moderate	Low
1st Semester Students	23.8	59.8	16.4
2nd Semester Students	28.0	58.0	14.0
3rd Semester Students	32.0	62.0	6.0
All	26.6	59.9	13.5

From Table 6 it is evident that the sample respondents possess a significant level of awareness of the concept of e-Governance, i.e., about relevant premises. It is observed that about 86.5% of the respondents belong to the clusters of 'moderate' and 'high' levels of awareness. The cluster of 1st and 2nd semester students shows a lower level of awareness. Therefore, appropriate training plans, including awareness-building programs can be provided to further their awareness level.

Attitude

From the sample study, levels of attitude of the respondents have been assessed adopting the same as in the case of measuring awareness levels.

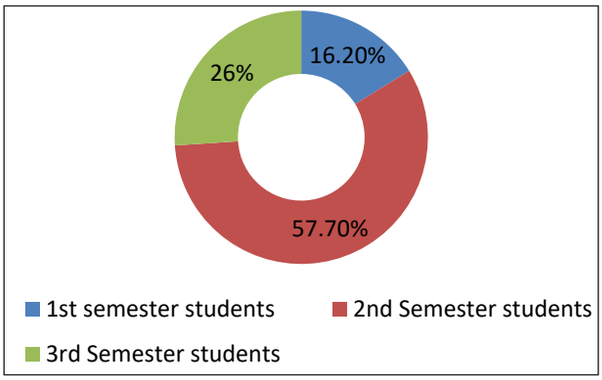

Fig. 8: Readiness of Working Professionals of Berhampur University by the Level of Attitude

Study on the aptitude, awareness, and attitudinal factors exhibit a mixed status of readiness of the students toward e-Governance. They show lower level of readiness in terms of technological skill (aptitude) compared to their levels of aptitude and awareness. Overall, it can be mentioned that a considerable portion of the students are currently able to adapt to e-Governance to some extent. It is also observed from the 3rd semester students of technological skills among working students that a smooth implementation of e-Governance applications requires a comprehensive training program.

FINDINGS AND CONCLUSION

Findings of the Study

Outputs expected are the availability of skilled students to handle e-Governance projects and continued availability of skilled and responsible personnel within every department to maintain the completed e-Governance projects. Employees with good behavior and computer skills available in all departments adhere to standards in both technical as well as service delivery parameters.

About 56% of the respondent students have received formal training in ICT. In most of the cases (76.6%), the university has provided the training for the students. In general, 57.2% students have ICT operational skill. Students are also found to limit their ICT activities, mainly to word processing, Internet browsing, and preparing presentations, with a high

concentration on the first. Almost 52% of the IT literate respondents inform that they do not find their own skills sufficient to perform daily work. Above 30.2% of the sample presently have an aptitude level of managing technological applications of e-Governance. Among the respondents, 27.5% have individual official PCs. About 42.8% have access to official computers, and 38.7% of them use ICT in their official activities. The rise in the number of PC users compared to the number of PC owners further confirms a positive trend of interest and mind-set toward the adaptation of ICT by the officers of Berhampur University. More than 82% indicated their need for training in ICT, although 56% already received formal training. This situation points toward a 26% overlapping of respondents who need further training. It partially speaks about the ineffectiveness or inadequacies of ICT training received by the overlapping respondents and partially about the respondents' further interest in IT. Officers of Berhampur University possess a significant level of awareness of the concept of e-Governance, where 86.5% of the respondents belong to the clusters of 'moderate' and 'high' levels of awareness. On the other hand, more than 80% students show a favorable attitude toward e-Governance. Comparative scrutiny on the levels of aptitude, awareness, and attitudinal factors exhibits a mixed status of readiness of the students toward e-Governance. They show a lower level of readiness in terms of technological skill compared to higher levels of awareness and attitude.

CHALLENGES FOR A LEARNING ORGANIZATION

Continuous learning and knowledge provide the power for sustenance in the new workplace transformed by ICT. The technology advances at a very fast pace. Therefore, employees need to be receptive and must be ready to update their knowledge and skills continuously for effective e-Governance. Peter Senge (1990) believes that organizations learn only through individuals who learn. Individual learning is essential to the continuing transformation of the organization, to expand the organization's core competencies, and to prepare employees for the unknown future (Redding, 1994). Making an organization a learning organization also makes it mandatory to encourage a culture of innovativeness, where people are given the freedom to practice what they have learnt to find solutions to problems in a novel way.

It is clear from the above study that the government has made good efforts in this direction by focusing on capacity building through enhancement of knowledge and skills to plan, implement, and sustain e-Governance initiatives through National e-Governance Plan (NeGP).

According to Chandrashekhar and Das, comprehensive capacity building is required across key areas relating to policy making, institutional arrangements, access to professional expertise, and outcome monitoring.

- *Policy Making:* The e-Governance policies are framed at the highest levels of government involving politicians and bureaucrats.
- *Institutional Arrangements:* In all the State and Central Government departments, the structure is empowered to monitor the e-Governance policies.
- *Access to Professional Expertise:* Certain basic skills for working in the changed work environment and upgraded technology are required in employees. Accessing external experts and professionals has also been envisaged in NeGP. There should be a balance between hiring outside experts and retraining existing employees.
- *Outcome Monitoring:* Close monitoring the benefits accruing out of the e-Governance project needs to be done to check the utility and relevance of the whole program.

CONCLUSION

The implementation of information and communication technology needs to be supported by proper strategies for handling the internal systems of the organization. The need is to initiate the development of appropriate ICT skills and culture change, in addition to providing appropriate technologies to support employees in achieving the objectives. The performance of officers of Berhampur University in delivering services to the people mainly depends on the performance of its employees. A highly motivated and satisfied workforce will perform much better than a demoralized and dissatisfied workforce (Prasad). The following strategies are suggested to tackle problems in various areas of human resource management in this environment.

- *Manpower Planning*: Job analysis, which involves job description and job specification, needs to be reviewed. New responsibilities, tools, changed relationships, and so on have to be determined. Restructuring and redefining job responsibilities would also necessitate the determination of additional skills and qualifications required for the job. Re-allocation of existing manpower to the new organizational structure is a challenge; this can be done on the basis of the skills and competence of the employees. A good career planning and performance management system helps in identifying employee potential, and determine the right person for the right job at the right time.

- *Recruitment/Selection*: On the basis of the new profile of employees required for e-Governance, new sources of their availability need to be tapped. Feasibility of other sources like HR consultancies may also be explored. The manpower may not be ready to be deployed into e-Governance projects. Training costs might be high due to geographical spread.
- *For Quick Decision Making*: Decision-making levels leading to re-engineering and appropriate sizing of the decision making machinery is essential. Quick decision making also necessitates employee empowerment (Riley, 2003; 14).
- *Change Management*: More than the technical issues, it is the management of change which is of prime concern. Organizations, by their very nature, are conservative (Hall, 1987). Resistance to change among employees could be a threat to established resource allocations (Robbins, 1998). Retrenchment fear includes the possibility of redistribution of authority, expected changes in work schedules requiring change in habits, and fear of the unknown or resistance to computerization. Changed processes would have to be properly understood, accepted, internalized, adopted, and improved to enable utilization of the technology being adopted as a part of Smart Governance.
- *Leadership:* The e-Governance implementation leader should have strong conceptual and manpower management skills. The leader will be required not just to direct but also to act as mentor and coach. Leaders need to change their styles and will have to adopt different approaches to manage people in new work settings in the organization characterized by use of modern technologies, and continuous change (Table 2).
- *Training and Development*: Training and acclimatization of the personnel at all levels, more so at the lower rung, of government management organizations are required. It is essential to train all employees in basic computer usage. There should be workshops and seminars for all levels.
- *Performance Management*: The performance management system should be modified to incorporate new key result areas, and also the new competences and skills expected from employees. On-going feedback should be given to employees. Periodic reviews of employee performance must be conducted to get the desired results. Technology that has restructured work will force those who are responsible for employee development to create more flexible and responsive learning and performance solutions. (Van Buren, 2001).
- *Reward System*: HR managers need to be creative in designing a reward system for employees who are new to the use of ICT to motivate them. Any positive behavior, i.e., in consonance with the requirements of the new job, must be re-enforced. Outstanding efforts, suggestions, and innovations can be rewarded to boost morale of the employees.
- *New Work Patterns*: Government agencies may need to employ new work patterns in the workplace, where knowledge becomes more important than procedures. Employment of more flexible working patterns like flexi-time, telecommuting, part-time jobs, and so on may need to be adopted.

e-Governance is a big leap toward that direction. Hindrances are bound to occur when a change of such magnitude and expanse is sought to be implemented. Employee satisfaction is the key to delivering quality services to the people. Employees can be motivated by adopting HR policies that are complementary to the changed work environment.

As an emerging concept, e-Governance has become trendy around the world, with various moves by the governments integrating information and communication technologies in the process of delivering services for citizens. The growth and status of e-Governance varies from country to country regarding degree of their preparedness that relates to availability, accessibility, and the nature and level of use of e-Governance tools by the civil servants providing services for the needs of citizens.

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