PRINCIPLES AND PRACTICES OF WORKFORCE MANAGEMENT IN INFORMATION AGE

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Abstract: Any age makes utter changes in workforce management practices encompassing all aspects of managing the complete workforce lifecycle. This meme passed to information age as well. These changes are nothing but the reflections of shift of values and thus pervading practices.

This paper intends to explore information age and workforce management with the accompanying expanding horizon of workforce in information age. It explores whether the information age is trying to enhance the output or is ready to take a plunge for optimum customer delight through innovation and origination, with the help of attunement of practices, served via information-literate workforce.

The paper is divided into eight parts, namely- introduction, workforce management, information age, expanding horizon of workforce management in information age, aspirations and possibilities in information age, workforce management principles, information age: known output vs. innovation and practices in information age, and conclusion.

The outcome of this paper is a lay of information age portraying its corresponding practices for timeless principles of workforce management. Additional, it opens up the verity of information age getting dubbed into innovation. The information age is not the avalanche of workforce opportunities but a shift to be understood by managers and workforce to create better career and work scenario.

Keywords: Information age, Workforce Management, Expanding Horizon of Workforce, Practice, Known Output, Innovation

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INTRODUCTION

As the information age is proceeding, information technology which was traditionally considered as the cost center is turning into profit center of the organization. How has it happened? With the information revolution creating new opportunities, the question could hardly be timelier. Today's core is how pertinent is the technology and how well it is implemented. Both the things are not possible without a well-made workforce, and hence, without strong workforce management. According to Khosrowpour (2001, p. 193) A company will only be able to implement new technology if adequate experience and expertise, both at engineering and managerial level are available locally. Information age demands plethora of changes in workforce and workforce management. It has changed the way of doing, and the way of managing, both. The horizon of workforce is shifting and expanding in information age. What exactly marks information age and how the workforce and workforce management be characterized in this age opens a new vistas altogether.

This paper tries to understand the aspirations and possibilities of information age in the light of workforce management by analyzing the movement towards business intelligence, and also to excavate the principles and practices of information age.

WORKFORCE MANAGEMENT

In an era of ever-changing workplace landscapes – technology, people, regulation and all, workplace management is posing new challenges in front of organizations. As Fisch, McLeod, and Brenman said in their popular viral video - we are currently preparing students for jobs that don't yet exist, using technologies that haven't been invented, in order to solve problems we don't even know are problems yet.

Workforce management, when dissevered into two, is workforce and management.

As per Oxford Dictionary, Workforce means - the people engaged in or available for work, either in a country or area or in a particular firm or industry. Workforce is the pool of labour working for a company, an industry or a country. It also suggests all those that are available for work. It is the labour pool used in employment by a firm, industry, country or globe.

According to BusinessDictionary.com, management means - the organization and coordination of the activities of a business in order to achieve defined objectives. Management is the process of coordinating the efforts of people to achieve goals and objectives, using available resources effectively and efficiently. Henri Fayol (1966) was one

of the most influential contributors to modern concepts of management and considers management to consist of six functions:

1. Forecasting

2. Planning

3. Organizing

4. Commanding

5. Coordinating

6. Controlling

Mary Parker Follett described management as philosophy and defines it as - the art of getting things done through people.

Thus, workforce management is the practice where the management controls the result by organizing and harmonizing the workforce, keeping the other aspects of business in parallel, and the objective of the business in center. Though the workforce management kept on transforming continually with the transition of eras but the aim has been same – maintaining a productive workforce to optimize the productivity.

INFORMATION AGE

The internet reached critical mass in the early 1990s with the introduction of personal computers in late 1970s. The adoption of such technology by the public in two decades brought about a fast evolution, allowing rapid global communication and networking to shape modern society. As per Castell (2010, p. 1), in the last quarter of the twentieth century, a technological revolution, centered around information, transformed the way we think, we produce, we consume, we trade, we manage, we communicate, we live, we die, we make war, and we make love. This became the onset of the information age.

Information age, for business today, is one where workforce is faced with:

1. Automation of tasks they perform

2. Global outsourced job market

3. Either moving up or settling for low wage job

4. Information intensive industry in place of labor or capital intensive industry

5. Only mind workers (information literate people) are able to compete

In the information age, the workforce comprising of information literate people at multiple levels is the successful workforce. According to Doyle (1994, pp. 2-3), the information literate person is one who:

1. Recognizes that the accurate and complete information is the basis for intelligent decision making

2. Recognizes the need for information

3. Formulates questions based on information needs

4. Identifies potential sources of information

5. Develops successful search strategies

6. Accesses sources of information including computer-based and other technologies

7. Evaluates information

8. Organizes information for practical application

9. Integrates new information into an existing body of knowledge

10. Uses information in critical thinking and problem solving

These attributes have not created the adverse situations rather they shifted it levels up by expanding the horizon of work. The horizon of work is expanding in all areas of economy and society with the advent and progress of information age. The main features of information age are – hyper-specialization, horizontally-networked, highly-interconnected, less hierarchical, less command-and-control oriented organizations, with the big data as key basis of competition, growth and innovation. Information age is the age of business intelligence.

EXPANDING HORIZON OF WORKFORCE IN INFORMATION AGE

Today, like the smart gadgets, like automatic vehicles rolling over the roads, like drones all set to nosedive in customer service, like expensive, intelligent home appliances; work too is, and will be, smarter. Much smarter than it is today so do the needed workforce. The top in-demand jobs in 2013 did not exist in 2000. The world has shifted drastically with the information, connectivity and global population growing exponentially, which is not destruction but creative construction into new model based on information and associated technologies. It is not brutal like industrial age came upon us, it is demanding. It has not crushed the scope of creativity and aptness, it has rejected the redundant, inept and bore.

According to Crafts (p. 173-190), children and adult people are growing up in a vastly changing context. No aspect of their lives is untouched by the digital era which is transforming how they live, relate and learn. Digital era is the era of creating and using technological processes and resources to facilitate e-learning. Businesses need the flexibility involved in a freelance workforce and today's learners have flexibility to have more than one job as freelancer, and in near future it will increase around 10 to 14 jobs. Access to education - online computer based training which is self-paced and is independent of time and place, availability of study material, webinars, online teaching, online submission, online jobs based on swift trust, unbiased evaluation of deliverables all has expanded the horizon of education and its results. It is the shift of society towards abundance.

The old jobs are evaporating and the new jobs are taking their place, the new knowledge to perform them and courses based on them are needed, and needed is the motivation of workforce to move as fast as the time is moving. LinkedIn, Facebook, Twitter and company websites now contribute big percent of hires through direct referrals and direct hiring channels. According to Biswas (2013, p 4), Aircel gets more than 90% of its hires…, Cognizant gets 80% to 85% of recruits, Crisil 75% to 80% of recruits, and EXL 73% through non-consultant channels. The line between the personal identity and professional identity is fading, information age is integrating the personality of learner or professional and strengthening the innate individual and its capabilities from being a hyper-specialist or freelancing variety of jobs. The role of workforce management is to understand these shifts and provision learning, deployment and development that attunes the pace.

Information is the new raw material for any country, society or organization. Computer based technology pumped with DSS, data mining and predictive analysis can integrate, compute, analyze, report and do analytics, not without properly trained workforce. As Turban (2010, p. 446) said, from the perspective of management profitability, responsiveness maximizes revenue and efficiency minimizes cost. Any country, society or organization revolves around four basic questions – where does it want to go? How shall it get there? How well is it doing? What can it improve the performance? Information age has pertinent, structured and formal answer to all these questions buttressed by business intelligence, decision support system, data visualization, data, text and web mining, predictive analytics and other associated technologies. As the information is growing, we

are deficient with the people, institutions and processes to make sense of it all. Thus the emerging jobs are Virtual architects and interior decorators, social media police, computer game coaches, statisticians, data miners, business analysts, data scientists, IT architects, IT scientists, data visualization artists, more teachers, more lawyers and more psychiatrists. The effectiveness of workforce management in information age is to produce these talents.

The concept of 10 to 5 office is blurring. As Kenichiro (2013, p. 4) says, the most significant growth and positive impact is coming from mobile phones."[10] Mobile handheld devices give real time access helping to boost productivity levels, increase flexibility and enhance collaboration. An employee is expected to be flexible when faced with answering calls or responding to e-mail or SMS in their personal time. To increase the responsiveness of business, the responsiveness of workforce is critical in this cutting-edge competitive age. The workforce management has to harness the individuality and collectivity of workforce in this direction and for work-life balance as well.

Technology has created demand for individuals who work from home. Homesourcing is the practice wherein firms outsource to people's homes instead of hiring regular personnel with appropriate telephone and internet facilities. The custom of business process outsourcing is done and homesourcing is in. Standard business software and related web services have been designed to unswervingly support smaller businesses in standard business practices as the number of small and home offices increased. The specialty of information age corporates is to decentralize the work to SOHOs (small office/home office), gather the super-specialized work done by them and assemble them, thus, cutting enumerable costs involved with full time employees. The credentials of a worker is not anything else but the quality of his delivery and professionalism. Workforce management will learn to manage this decentralized channel streams in order to meet the expectations of the organization.

Gender consciousness has been very high in business environment as a pervasive effect of society as a whole. The new information age is based on least interpersonal interactions ever. According to the online survey (for women respondents) by the International News Safety Institute (INSI) and International Women's Media Foundation (Prabhakar, 2013, p. 7):

79.8%	Said their organization doesn't provide training or resources for source protection
78.8%	Said their organization does not prepare them for the possibility of work-related harassment
78.2%	Said their organization does not prepare them for the possibility of work-related violence
77.5%	Said their organization does not provide training, and/or resources for digital/online security
69%	Stated their organization does not take any measure to protect their personal security
69%	Said their organization does not provide emotional support or professional counselling on work-related harassment or violence
22.4%	Stated that their organization provides specific facilities for women at the workplace such as female toilets, prayer areas, car drops and lactation rooms

Table 1: Preparedness, Prevention and Protection

The new project based culture of homeshoring, with least interpersonal interaction and dependence, will shift the locus of gender issues towards social governance in place of corporate governance. Women are not represented at the top and they earn 20% less than men, decades after establishment of legal protections. The workforce management of information age is about balancing the yield with the proportionate strength of right and left both. It is going to be the one of the biggest change agents of information age towards wisdom age.

The information age has started with independent information systems, data silos and unintegrated unstandardized data. The usage were limited to making transactions, some finance, accounting and human resource, but it was well-nigh impossible to have an integrated view of any one item. If the customer service executive wanted to up-sale or cross sale, or a manager wanted to make a strategic decision, he couldn't be supplied with proper information. In Late 1980s business intelligence, an umbrella term, with associated technologies made us transit indeed to information age. From now data has become one of the compulsory raw materials for every organization to run it successfully.

Data are raw facts, collected from various transactions. These data, when organized, processed and interpreted is called information. Information adds to the knowledge of the decision maker. Knowledge is the result of processing on data. Creation of this knowledge is

the movement towards business intelligence. For responsiveness and efficiency, the two factors of competition in information age, business intelligence is the only response.

Nolan (2011, p. 9), in his case study, presents graphical transformational process of moving from industrial age management principles to information age management principles, as follows:

Transition to the Information Economy Management Model:
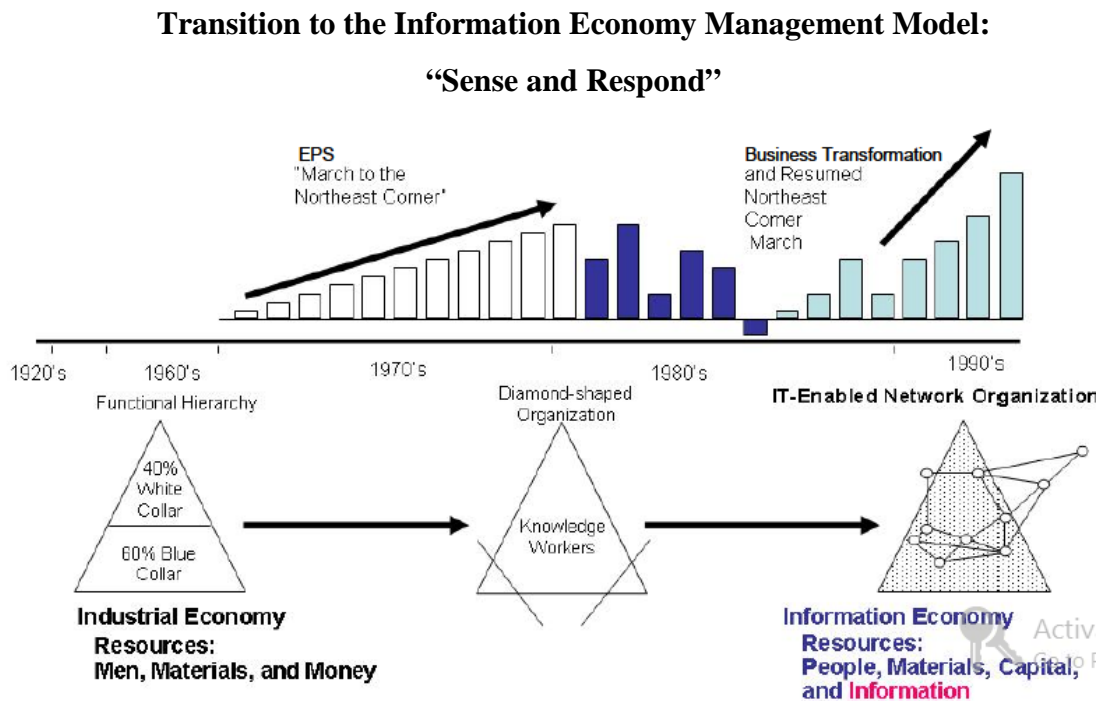
"Sense and Respond"

Fig. 1: Transition to the Information Economy Management Model

ASPIRATIONS AND POSSIBILITIES IN INFORMATION AGE

The past two decades have not only brought great changes in the tools, practices, and thinking of world of work but a changeover in the principles of it. Stowe Boyd (2013), the famous web anthropologist and futurologist introduces the term – The consumerization of work. Consumerization of work is adoption of consumer technologies. Mobile devices are introducing groundbreaking consumerized work-related products. The concept of 'bring your own device' is shoring. Capabilities of online service providers like Google, Facebook, Dropbox, Salesforce etc. are becoming the backbone of an organization's competitiveness which, in turn, needs new breed of workforce. Organizations are bound to rethink their processes, procedures and installations. According to Schmidt and Cohen (2013, p. 20), in the future, computers and humans will increasingly split duties according to what each does well. Folklore of workforce management is displaced by algorithm. Softwares, that reads

candidate's hard skills, cross relate that with candidate's social media involvement, and how others treat him, determines the selection.

Workforce management of future will revolve around two major changes:

1. Adoption of radical technologies at workplace to increase productivity, and quality of life
2. Emerging future considerations due to new work environment

Workforce management in the information age aspires for a veer to optimize the output by optimizing its role. It has to ensure the happening of new levels of innovation, collaboration and cross-pollination in the playfield. It has to understand the shifting roles and has to make provisions for it in the world's largest ungoverned space – the internet.

WORKFORCE MANAGEMENT PRINCIPLES AND PRACTICES IN INFORMATION AGE

Principles are fundamental rules and are noticeable in the form of consequences. They are not limited to time, place or person but are universal. They manifest their presence in the form of consequences from time eternal till time eternal. Workforce management, as a part and function of organizations, societies and countries also inherit the consequences of these principles. Research, analysis and investigation verify these principles. These principles guide managers in formulating policies, programs, procedures and practices. These policies, programs, procedures and practices can be different with different time and place but the underlying principles never change.

According to Aswathappa (2013, p. 26), the principles of workforce management are:

1. Principle of Individual Development
2. Principle of Scientific Selection
3. Principle of Free Flow of Communication
4. Principle of Participation
5. Principle of Fair Remuneration
6. Principle of Incentive
7. Principle of Dignity of Labour
8. Principle of Labour Management Cooperation
9. Principle of Team Spirit
10. Principle of Contribution to National Prosperity

Individual development is a principle, you will get results on the basis of how you respond to it. Principles are reciprocated by opting practices. Opting some practice is not saying yes or know to principles, its choosing the way of responding which manifests in broad arrays. Responsiveness of the organization is nothing but deciding on practice of the organization. Every era responded in its own fashion so do the information age. Practices of toady reflects a brand new response to the principles. This new approach of responding yields different output altogether.

The first principle - principle of individual development implies full and equal opportunities to every employee to facilitate the realisation of his/her full potential. The information age practices are informal learning, online courses, computer based training, developing multiple skills, developing adeptness with information and knowledge.

The second principle – principle of scientific selection means selection of right person for the right job. Today's practice is looking for moral commitment. Web-enabled intermediaries, application service providers, internet and network monitoring software are resulting in different selection practices altogether. Practice of atomization enables hyper-specialists to do pieces of a single job with utmost efficiency, later assembled at organization.

The third principle - Principle of free flow of communication means keeping all the channels of communication open and encouraging upward, downward, horizontal, formal and informal communication. The information age practices are web portals for self-service for both employer and employee, high speed wireless internet access, electronic reporting, mobile web, fading boundaries of personal and professional.

The fourth principle – principle of participation associates employee representatives at every level of decision making. Real time technologies has given a new platform altogether. Integrated web based software boosts participation at every level. Global networking has left no difference between day and night to hinder the participation of associates at any point.

The fifth principle - principle of fair remuneration is to pay fair and equitable wages and salaries in commensuration with the jobs. Information age equipped with Human Resource Information Systems that facilitates the transparent appraisal system and aligning it with

contribution of people. Information age has a paradigm shift of treating workforce as people not resource.

The sixth principle – principle of incentive is the spirit of recognizing and rewarding good performance. Computerized analytical programs enabled this age to assess clear cost benefits not only measuring the performance and rewarding people but facilitating people to improve. Giving smart objectives, their monitoring and reporting has got different levels.

The seventh principle – principle of dignity of labour is treating every job and every job holder with dignity and respect. In digital age the workforce is not employee but business partner. Global economy has given new esteem to the specialization. It's no more in the form of structural class but the worth of specialists' specialization has formed a new open structure of organization where intermediaries connect organization with these specialists or teams as business associates.

The eighth principle – principle of labour management cooperation is promoting cordial industrial relations. New information technology, technological infrastructure, project management applications, groupware have smoothen the industrial relations. Industrial relation function is disappearing from many an organisations in the declining relevance of trade unions.

The ninth principle – principle of team spirit means promoting cooperation and team spirit among employees. Cooperation and networking in information age is based on swift trust. Unrestrained working time, changed definitions of employer-employee contracts, high speed home networks, virtual presence, web portal, online ERP etc. are promoting cooperation and team spirit among employees to new levels.

The tenth principle – principle of contribution to national prosperity promotes providing a higher purpose of work to all employees and to contribute to national prosperity. In the global village of information age, people are outgrowing the delineation of nationality to some land. They are defining their identity on the globe as global citizens.

INFORMATION AGE: KNOWN OUTPUT VS. INNOVATION

The practice of industrial age – planning the production output and then exploiting the human resource accordingly gave two concepts – desired output and actual output. The actual output can be sometimes more or sometimes less than desired output. The common practice was to raise whichever found less. Actual output and desired output both has a

limit on upper side. After a certain limit it starts increasing at a diminishing rate. It is the result of choice of practice. The practices of that time were based on scientific management, well calculated, functional designed, closely supervised. The outputs were almost known and predictable every time, hence they can be called known output.

In the information age, the practices shifted to specialization, expansion of mind and consumerization. The output is innovations, reflected in spanking new technological innovation. As Smith and Cohen goes, - some entrepreneurs and inventors will be building for different audiences, solving very specific problems. Information age is the age of innovation that means a new, specific, directed and integrated result every time – the new outputs altogether to meet every different requirement. It is the time of customer service not the time of bottom line. It is the time of bit coin not the dollar or pounds. It is the time of social media not the court trial. It is the age of crowdsourcing not the outsourcing. It is the age of virtual presence not the jets. To Kejriwal (2014, p. 24), people don't like what their grandfather played and paid with. Information age is based on producing distinguished services. The new is very short. Old is being superseded not by better but the new make. Table-tops by handhelds and handhelds by wearable ones. The miracle of information age is the relationship between size and efficiency which is inverse to each other. The smaller is the faster, the faster is the truer.

As per Roberts (2011, p. 6), Smith reminds us…invention is possible…when 'each individual becomes more expert in his own peculiar branch, more work is done upon the whole, and the quantity of science is considerably increased by it'. In the light of this statement made by Adam Smith, no other time ever before has been so suitable for innovation than this age. Due to mass customization followed by consumerization, every customer is a mass of different complex of expectations, and moreover, he is aware that the information systems are able to supply the organizations with ample information making organizations sufficient to adapt to their customers' needs beforehand. With technological growth their expectation are also growing.

Succeeding in any age is responding appropriately to its practices. Organizations respond through their policies, practices and human resource. The practice of information age is innovation for customer delight i.e. specialized product in every case that can satisfy the customer needs optimally.

The challenge of workforce management today is to interject these practices in their value form into the minds, hearts and hands of the workforce by developing an ingenious approach of workforce development and to develop policies and practices that are in congruence to enforce and deepen these values.

CONCLUSION

This paper made sincere efforts to unfold the issues involved with the information age, in toto, and its pervading nuances for the workforce management. It tried to present how the role of information technology has changed its face and has changed both the internal and external dimensions of the business and business environment.

We recollected the meaning of workforce management, understood the information age and familiarized how the literate workforce has grown into information-literate workforce.

The information age demands information literate people, embedded with the information age values. As the technology of earth is expanding in all directions – business, office, education, country, world and universe, it is bringing with itself new hoards of issued that are redefining, like work, home, office, efficiency, relationship, gender and almost everything. To pace up the growth and to ward off the unintegrated growth of the society is the responsibility basically lying with the workforce management, not only solely but by chaining with its backward and forward links to ensure the all-encompassing growth.

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