VIRTUAL HR ERA IN HUMAN RESOURCE MANAGEMENT

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ABSTRACT
In modern era, in Human Resource Management (HR) they are lot of technological evolutions are happening. On the daily basis, the management routine of the people management becoming too hectic. So, the HR managers always looking for technology that can enrich the work compatibility of HR processes. For that, the recent technology, which is known as Virtual Reality that can be preferred for the HR management for recruiting, employee database management and to improve their employee productivity and communication, particularly ones that are impactful and easy to deploy. Virtual Reality (VR) checks both those boxes. Large organizations and agile start-up alike are using VR for everything from hiring to training to employee communication. The virtual platform they chose gives their employees not only a chance to learn from one another but allows them to take advantage of language learning opportunities. Hence we studied various studies and research on Virtual HR concept and pointed out the objectives, challenges and future of this Virtual HR concept.
KEY WORDS: *Virtual HR, Challenges, Virtual Reality, organization, communication.*

I. INTRODUCTION

Virtual HR provides various range of options that connect employees directly with HR systems in an organisation. It allows them to fed the input data directly and bypass the need to go through a third-party, typically a member of the HR department. For employers, this has the effective benefit of reducing the time commitment of HR people to maintain the integrity and providing the maintenance of employee information, also frequent audit and accurate information on staff needs which can be collaborated and acted upon. For employees, virtual HR allows them to 'own' their own data at the company and also keep on top of training needs and appraisals, making these an on-going process rather than a once-a-year affair. As well as providing employees access to self-service tools, virtual HR systems commonly allow the HR department to automate many common tasks like information dissemination, payroll, administration and regular newsletters.

According to the Future of Jobs Report, The demand for uniquely human skills will grow. The World Economic Forum projects that 75 million current jobs will be displaced as artificial intelligence takes over more routine aspects of work. However, 133 million new jobs will be created, and skills in both emotional intelligence and technical intelligence, like technology design and programming, will be important.

The focus for 2019 will be on deciding how to use AI to help workers do their jobs better. PwC forecasts 20% of executives at U.S. companies with artificial intelligence initiatives report that they will roll out AI across their business this year and expect AI investment to both re-imagine jobs and work processes. For HR leaders, we see this already happening. Oracle and Future Workplace conducted research with 600 HR

leaders entitled AI at Work, to learn where AI was being used in the workplace to re-imagine candidate and employee experience. It is up to organizations to identify their own recipe for success against this new business backdrop. That being so, more and more organizations tend to structure their individual functions as to make them more flexible and adaptable to change. One more implication is the need to adjust human resource management (HRM) to virtual business operations, based not only on the innovative reorganization of activities, usually IT-based, but also on the readiness of HR managers to employ a new approach to the standard issues – from leadership, teamwork, the development of required and necessary skills, to sometimes indispensable outsourcing of the very HRM function.
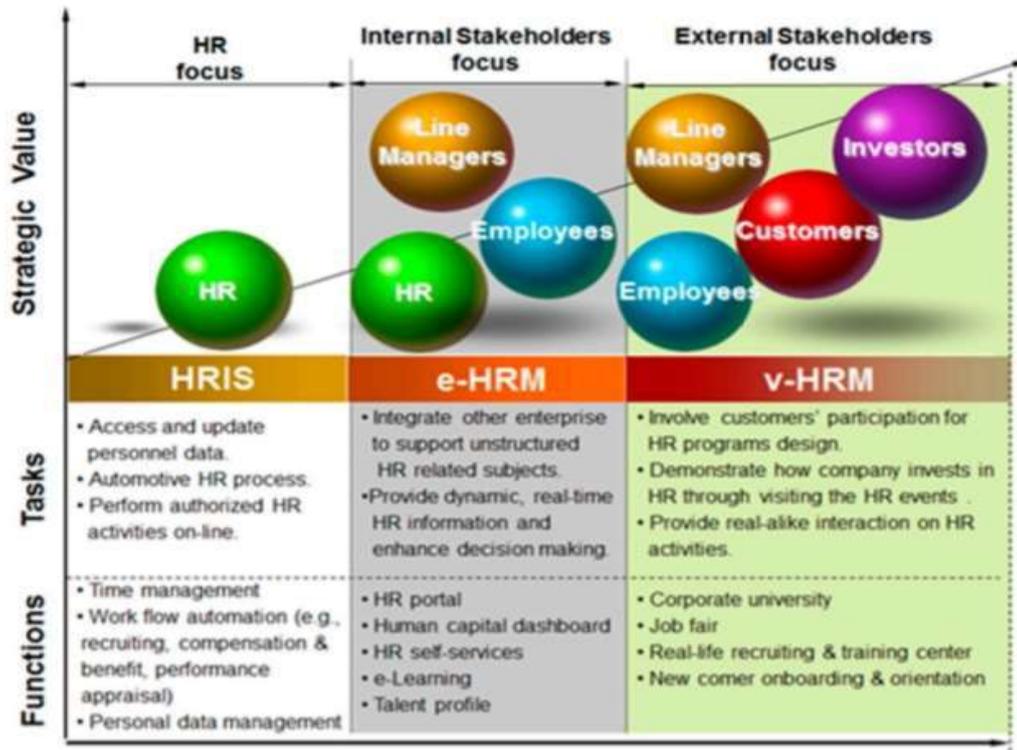

Figure.1 The Informational Technology (IT) profile of Human Resource (HR) Transformation
(Source: Hung-Yue Suen etal, "Towards multi stake holder value: V-HRM")

II. LITERATURE SURVEY

Scott A. Snell(2001) published an article in the CAHRS Working Paper Series entitled that "Virtual HR Departments: Getting Out of the Middle". This paper explore the notion of the virtual HR departments: a network based organization on partnership and mediated by the information technologies in order to be simultaneously strategic, flexible, cost efficient and service oriented. Merck Pharmaceuticals in order to show how information technology in establishing an infrastructure for virtual HR. Then, we present a model for mapping the architecture of HR activities that includes both internal and external sourcing options. We conclude by offering some recommendations for management practice as well as future research.

Sharyn D. Gardner, David P. Lepak, Kathryn M. Bartol(2003) published an article in the Journal of Vocational Behaviour entitled that "Virtual HR: The impact of information technology on the human resource professional". This paper explore Accelerated investment and innovation in information technology (IT) offers prospects for conducting business in ways that are radically different from the past. Despite the growing presence of IT within organizations, however, we do not have a clear understanding of how IT impacts the role of professionals. We address this issue by investigating how jobs in one professional occupational segment, human resources (HR) professionals are influenced by extensive use of IT within the human resource department. Specifically, we examine how HR professionals handle HR information as well as the expectations placed on them resulting from an increased reliance on IT. Our findings suggest that IT enables HR professionals to more efficiently access and disseminate information while it also influences what is expected of them. Implications and future directions are discussed.

Jonathan P. West, Evan M. Berman(2001) published an article in the Review of public personnel administration entitled that "From Traditional to Virtual HR: Is the Transition Occurring in Local Government?". This study examines the use of information technology (IT) in human resource management (HRM) and how it affects HRM work. Based on a survey of cities with populations larger than 50,000, it finds that although managers agree that IT is important, relatively few cities use IT in their HRM in any extensive way. Payroll and

benefits administration and online recruiting are widely used; however, IT applications in training, job analysis and evaluation, position classification, personnel testing, and background checks are not. The factor that most explains the use of IT in HRM is the technology orientation of HRM managers, and those HRM managers who view IT as a source of competitive advantage are more likely to promote it. The article concludes with implications for careers in HRM.

Strohmeier, S. Diederichsen(2010) published an article in the Academic workshop on electronic Human Resource management entitled that "Human Resource Management relevant Virtual Community Research: Review and Outlook". Virtual Community (VC) is a comprehensive phenomenon with relevance to social as well as economic transactions. Also Human Resource

Management (HRM) includes both relationship- and value added-oriented processes. HRM actors, in particular HR-managers and employees, increasingly try to balance their personal and job-related needs. Thus, given increasingly spatially dispersed workplaces, the usage of VC may generate benefits or risks for HRM relevant processes. Further, applicants utilize VC to enhance their chances in the recruitment process. Yet, although there is practical evidence of HRM relevant VC (VCHR), respective research literature seems to be scarce. To explore this, the paper aims at assembling and evaluating relevant academic literature to give an impulse for systematic VCHR-research which might a bet to the development of a respective research area in the context of e-HRM.

Kahai, S.S., Carroll, E. & Jestice, R. (2007) published an article in the Journal of the John Carroll University entitled that "Team Collaboration in Virtual Worlds. The DATA BASE for Advances in Information Systems". This explores that, Are virtual worlds more or less effective for virtual team collaboration? We suggest that the answer to this question is complicated and dependent upon a number of factors, and we propose a research agenda with theoretical bases to guide researchers in the area of virtual team collaboration for the next seven to ten years. While virtual teams are increasingly used by organizations, there has been little systematic research done to understand how collaboration in virtual worlds compares to collaboration supported by other media, or how characteristics of virtual teams influence the collaboration process and outcomes. The research agenda that we propose looks at basic differences between virtual worlds and other media, but also includes consideration of the specific contextual factors, and the influence that leadership might have on the collaboration process and outcomes.

LeTart, J. F. (1998) published an article in the Journal of HR magazine entitled that "A look at virtual HR: How far behind am I". This explores the transformation may also lead HR professionals to create innovative practices or to innovatively deliver HR practices to their clients. These ideas parallel recent visualizations of the potential progression of IT use in the HR function: from simple information publishing to HR workflow over the web (LeTart, 1998). According to

this framework, the use of IT in HR has the potential to both enable as well as constrain the work roles of employees.

David. P. Lepak(1998) published an article in the Human Resource Management Review entitled that, "Virtual HR: Strategic human resource management in the 21st century". This article explores the emergence of virtual HR in organizations as a response to the increased presence of external structural options to perform HR services as well as the growing sophistication of information technologies. We examine the motives that are encouraging HR managers to implement these virtual arrangement and, drawing from transaction cost economics and the resource-based view of the firm, we present an architectural framework that can be used to understand and map the underlying structure of virtual HR. Theoretical and research implications are discussed throughout the article.

Dr. Amol Murgai published an article in the International Journal of Trend in Scientific Research and Development(IJTSRD) entitled that, "Role of Artificial Intelligence in transforming Human Resource Management". This explores that, Machines have a lot, but before they reach the point envisioned they are still dependent on people to judgement. Among the latest patrons of departments that have realized the wisdom of assisted decision making about the resource of an organization to the people. The present paper stresses upon the Artificial Intelligence on Human Resource management.

R.Broderick and J. W. Boudreau(1991) published an article in the CAHRS Working Paper Series entitled that, "Human Resource Management, Information Technology, and the Competitive Edge". This explores that, the research is a human and context oriented study in the field of information systems (IS), human resource information systems (HRIS), leadership, human resource management (HRM) and tacit knowledge are focused in the study. HRIS and leadership are two main concepts of the research, whereas HRM provides an application area and managerial activities of leadership for HRIS. Tacit knowledge is used to describe and interpret actions that make leadership activities, sensitive and successful. The theoretical framework consists of when thinking and acting in the current way, what kind of information systems it produces, and when thinking and acting in another way, what kind of information systems it creates. The framework has its base on thinking and acting in a conventional, routine and stereotyped way, which hinders the process of observing, finding out, applying and using alternative thoughts and actions although they might provide useful and innovative solutions or activities for IS design.

Li Ma, Maolin Ye(2015) published an article in the School of Management, Jinan University entitled that "The Role of Electronic Human Resource Management in Contemporary Human Resource Management". This paper explores that, more and more organizations have been replacing face-to-face human resource management activities with electronic human resource management, e-HRM for short. e-HRM facilitates the HR function to

create dynamic and operational capabilities and contributes greatly on HRM effectiveness. This article elaborates on e-HRM in detail on the following aspects: Introduction of e-HRM, types of e-HRM, role of e-HRM, factors influencing utility, effectiveness of e-HRM, determinants of attitude towards e-HRM and the context for e-HRM in China, and it is expected to help people understand e-HRM more comprehensively and systematically.

Liangtie Dai, Yang He, Guangdong Xing(2015) published an article in the School of Management, Jinan University entitled that "The Construction of Human Resource Management Cloud Service Platform". This explores that, the HRM service faced the challenges of promoting efficiency, costs saving, quick responding and so on. In order to face these challenges, this paper puts forward a "6 + 1" structure of human resource management service combined with some characteristics of cloud computing, elaborates the service mode of the cloud service platform based on this structure, the characteristics and challenges of the platform, and hopes to provide a new service perspective to human resource management.

III. OBJECTIVES OF VIRTUAL HR INFORMATION TECHNOLOGY INTRUSION:

HRM professionals are facing a digital future. The rapid growth in the field of computer hardware, software, networking, and telephony services is absolutely essential to the virtual HRM movement. It is not accident that virtual HRM departments will become the norm in the near future. This is especially true with the increase sophistication and lower costs of information age technology and automated processes.
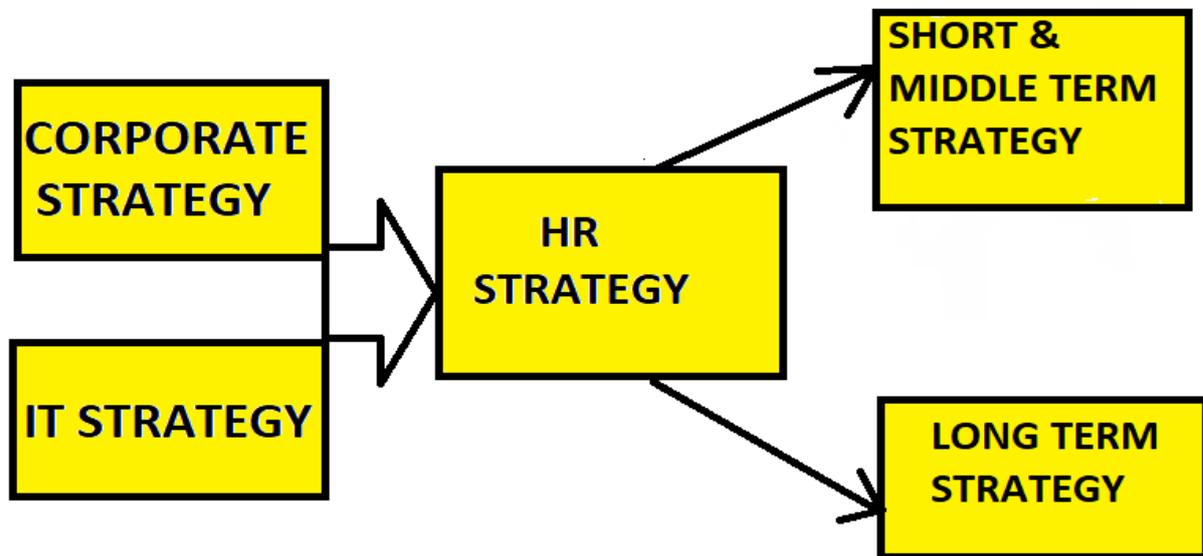

Figure.2 Strategic Framework of Informational Technology Plan
Source: Role of Informational Technology in Human Resource, Mrs.Jhothi Rohilla

PROCESS RE-ENGINEERING:

Strategic HRM managers are constantly looking for ways to streamline and improve core business processes to make them efficient. All business processes especially those in the HRM department can be re-engineered and improved through the skill-ful application of information technology.

HIGH SPEED MANAGEMENT:

To be competitive, all companies must work smarter and faster. Virtual HRM is definitely a smarter and quicker form of service delivery than traditional HRM.

NETWORK ORGANIZATION:

Virtual HRM departments are more likely to emerge in networked organizations than in traditional and bureaucratic companies. The proliferation of information technology such as local area networks, e-mail, and corporate intranets are the trademarks of a flatter networked company. These new-wave organizations offer state-of-the-art technology information sharing to empower all levels of personnels.
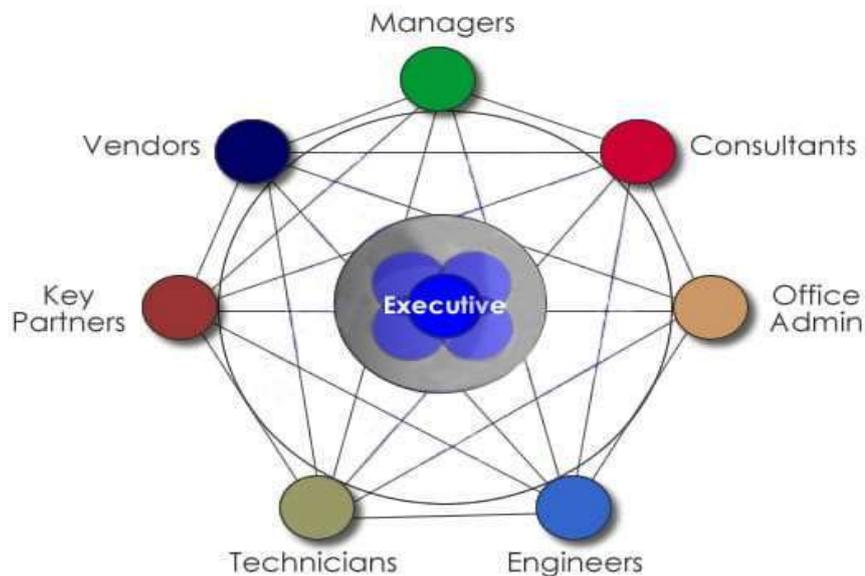
Figure.3 Network Organiszation in Virtual HRM
Source: Bitstream Communication, Inc

KNOWLEDGE WORKERS:

The 21st century organization will compete on strategic information and knowledge. These learning organizations will be staffed with self-directed and computer savvy, knowledge workers. These workers will excel at using information to quickly identify and capture lucrative business opportunities while also diligently identifying and resolving costly problems.

GLOBALIZATION:

To complete successfully in the 21st century, nearly all companies must develop a global business strategy. This means that HRM departments must be capable of providing services to their employees anywhere on earth. Obviously, a technology-assisted HRM department that is skilled at traversing the information super highway, is in the best position to support a globalized workforce.

IV. EXPERTS OPINION ON VIRTUAL HRM

According to Josh Zywien, vice president of marketing for SmashFly. "One of the bigger challenges for recruiters is finding the applicants that are most equipped and engaged within what can be thousands of contacts in a candidate relationship management [CRM] system. Recruiters need more information about those candidates beyond the fact they viewed some landing pages or opened e-mail. Using its conversational abilities, Emerson learns more about candidates' qualifications as well as who they are and what they care about, Zywien said, allowing recruiters to fast-track priority candidates. The tool can also alert recruiters to take over a conversation in person if needed. By working with SmashFly's CRM, Emerson can automatically create a new contact record and track all conversations a candidate has with the chatbot in a single record. Those conversations often give recruiters more data and insight when evaluating candidates.

According to Sharon Teo, the Senior Vice-President of Corporate MSIG Insurance (Singapore). As MSIG progresses in its digitalisation, our key mantra is to "bring everyone along" on the journey. To fulfil this commitment, we proactively look at what jobs and skills need to be transformed, and provide learning and development interventions for our employees to continually grow their skills and stay relevant. For example, we have introduced programmes on agile and design thinking to train our employees to adopt a more innovative mindset and become more performance-driven as we transition into a digital-first workforce. We also regularly provide our staff exposure to digital technologies involving artificial intelligence and virtual reality, through workshops and courses, to allow them to gain a better understanding of lifelong learning.

According to Tanya Worsley, the Head of Global Professional Accountancy for Kaplan."To empower employees with the right skills and competencies, HR practitioners must rise up to the challenge and embrace experience-based skills development as another inventory in their up skilling toolbox". Technological advancement is propelling the upskilling landscape forward as new innovations including automation, Artificial Intelligence (AI), Augmented Reality (AR), and Virtual Reality (VR) offer life-like simulations that make learning more immersive and engaging to users. If the learning and development (L&D) sector progresses steadily at this pace, eventually, computer programmes will reach the necessary intelligence to train employees – teaching, guiding, assessing, and providing them with productive feedback

– independently without human intervention. With society accustomed to having answers just an Internet search away, it is no coincidence that digital platforms will become a widely accepted medium.

According to Arturo Schwartzberg, co-founder of e-learning company SweetRush, putting on a headset and being immersed in a VR experience can help build empathy. "You can experience what is it like to be in a wheelchair, or be the minority in the room, or to do someone else's difficult job that you never really thought about," SweetRush worked with Hilton to develop a VR experience to give office staff a taste of the reality of running a hotel, from the front desk to housekeeping. After a successful pilot, the VR experience has been rolled out to six of Hilton's corporate offices globally.

According to, Roy Elishkov, Actiview's vice president of strategy and business development. He Said that, "We can monitor their approach. Do they explore the space first, strategize? Are they mission-oriented, do they solve the puzzles in a linear order?". Transforming the way companies train VR is transforming the way training is delivered. For example, the British Army recently unveiled a pilot program that will use VR to train soldiers and, since 2017, fast-food chain KFC has been using a VR game to teach staff how to cook fried chicken. VR experiences are being developed to give staff a sense of the day-to-day reality of their jobs. While the use of VR for staff training and recruitment is not yet mainstream, experts believe it will be in the future.

According to Talespin CEO Kyle Jackson, companies are increasingly interested in using virtual reality to teach their employees soft skills, such as how to interview applicants and conduct performance reviews and he expects the trend of VR training to continue. "Soft skills are ranked among the most important for any organization as they discuss their needs for the future of

work," he told MIT Technology Review."We don't see this slowing down any time soon."

According to Kyle Jackson, CEO of Talespin, a company at the forefront of this HR revolution with its brand new virtual human technology for training the workplace of tomorrow. Our virtual human technology puts users in a VR environment where they can practice challenging workplace conversations with emotionally realistic AI characters," Jackson explains. "The characters convey emotions, use speech recognition and natural language processing to listen and converse and feature thousands of unique conversation paths for users to navigate".The goal is to provide increasingly digital workforces the chance to practice soft skills like empathy and communication with measurable results and actionable feedback.

According to Andy Trainor, vice president of learning at Walmart, virtual reality in the retail environment makes a lot of sense, especially in stores that are open 24 hours a day. "Because of you don't have the opportunity to train after hours and you don't want to disrupt your customers on the floor". Virtual Reality allows you to artificially creates scenarios that you can't recreate on the sales floor in a way that associates can learn in a safe environment.

According to Matt Charney, the chief content officer of Allegis Global Solutions. "It is a marketing and communications professional who specializes in creating smart, compelling content and campaigns that transform brand marketing into real business results".

According to Forbes, Dr. Jeremy Nunn cites "questions related to payment, holiday leaves, social benefits and their general rights" as common asks. With a chatbot answering questions, HR departments can avoid these questions which "can be both repetitive and time-consuming".
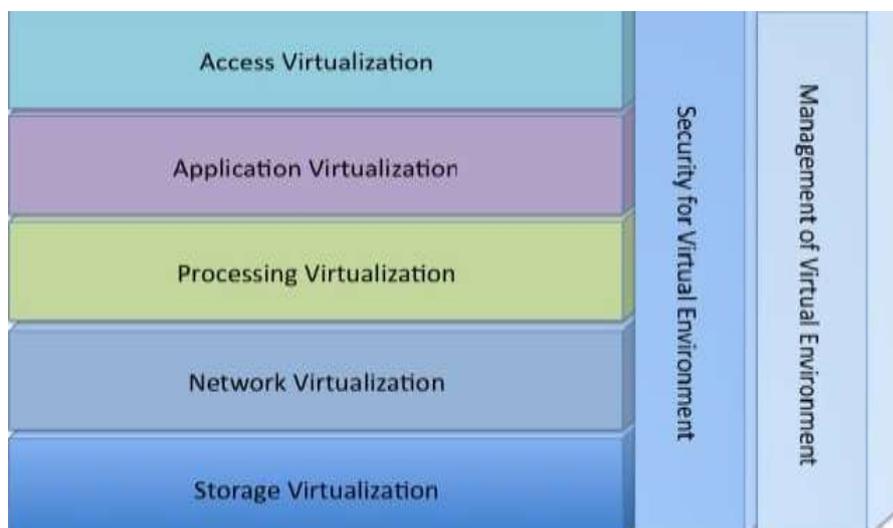

Figure.2. Kunsnetzky Group Model of Virtualization

V. VIRTUAL HR CHALLENGES SENSITIZE NEW USERS

In public virtual world spaces, many innovations are suggestively, or scantily, clad and say or text provocative comments to other innovations. From a Judicial perspective, if people says that it is a direct attack, but it is not so. According to Elchoness, the Chief Technology Officer of JumpCRew, the employees need to be sensitized to what they might see in a virtual world. A participant should also know, for example, that an user will fall asleep if the user doesn't touch a mouse for more than 15 minutes during a virtual meeting using proprietary virtual world software.

UNDERSTANDING PUBLIC VS PRIVATE BOUNDARIES

Employees should be aware that everything they say, text and do in public virtual worlds can be recorded and stored on servers. IBM restricts employees from carrying on company business in public virtual spaces unless a customer specifically requests it. Company officials who open offices in public virtual spaces may gain recruiting and marketing benefits, but they cannot control the language and behaviour that takes place there. According to Nehmzow, "If I don't have somebody in that space from my company at all times, I would not know that a conversation took place.

Figure.3 Recruitment challenges faced by the organisation at implementation stage
(Source: K. McCanless "The future of human resource management: how will work in 2028")

CONSULT LEGAL COUNSEL

The official legal advice, among the most knowledgeable virtual legal experts and even he does not know the answers to some important questions. Just because the person is hired in-world for an in-world function, they are not sure why they could not be considered an employee, in which case there may be benefits issues.

DON'T GET OVERWHELMED

According to Hamilton, "Just as a result of there square measure endless prospects with this medium doesn't mean you have got to undertake or work with them all". The majority of issues officers encounter in their virtual worlds have however to play out. Until precedents occur and data is gleaned, it pays to proceed providentially .That approach should include HR's early involvement HR professionals tend not to fully understand the positive elements and instead focus more on all the concerns and negatives

LEADERSHIP AND MANAGEMENT

A virtual business setting changes the context within which the affiliation between the leader and workers is formed and maintained. The many blessings of face-to-face interaction aren't any longer offered, and new, completely different parts square measure to be further to complement communication. There is a very clear need for HR managers to provide more information on the given assignment or policy of the company than they would normally do when able to read non-verbal.

SKILL AND INFLUENCE

Low levels of proficiency in exploitation technological tools and strategies in an exceedingly virtual business setting will solely generate mediocre results. If participants in these new modes of communication are not concentrated enough, that can only add to the unwanted outcome. The recommendation is to create an environment that can largely recreate a face-to-face meeting. It is only a proper groundwork and

good knowledge of the environment and co-workers that can make it happen.

Another elementary ingredient to feature is that the existence of common goals between hour managers and workers, because the solely thanks to produce a cohesive setting and determination to implement a corporate strategy.

LACK OF MOTIVATION

The members of a virtual team often feel isolated, losing a sense of importance of the job they are doinng. In order for the downside of the concept to be eliminated, and to motivate the employees working in a virtual work environment, it is necessary to foster constructive communication, active listening, clear presentation of goals, to ensure permanent availability of leaders and managers, often outside the business hours, and to use the tools like video conferences, Google Hangouts, Google Talk, Microsoft Lync (Skype for Business) and Cisco Jabber, allowing for permanent contacts with the team members, but in a less formal way.

VI.VIRTUAL HR FUTURES
ARTIFICIAL INTELLIGENCE/ MACHINE LEARNING

A major trend within the package trade as a full is that the move towards AI (AI) and also the way forward for hour package is not any exception.

A 2018 LinkedIn survey revealed how AI is poised to influence recruiting. Seventy-six percent of hiring managers and recruiters think the impact will be at least "somewhat significant. The survey pointed to candidate sourcing (58 percent) and candidate screening (56 percent) as the top two areas where AI will prove most valuable. Interviewing candidates ranked last, showing that AI isn't a silver bullet solution. Humans are still superior when it comes handling complex, nuanced situations. The biggest advantage of AI is streamlining the reading of applicant materials. Instead of relying on an HR professional to pour over hundreds of resumes and cover letters, businesses can use an AI system to complete the task quickly. An added benefit in the realm of HR software is the analytical evaluation of candidates, free of human bias or error.

Ideally, this can end in stricter qualification-based worker choice.

With the help of AI, HR departments have a tool for the accurate analysis of employees from application submission to continuing performance reviews.

ROBOTICS AND AUTONOMOUS AGENTS

Chatbots are another major HR trend that falls into the real-time of artificial intelligence. Many vendors are already incorporating chatbots into their HR systems to provide answers to employee inquiries. Via Forbes, Dr. Jeremy Nunn cites "questions related to payment, holiday leaves, social benefits and their general rights" as common asks. With a chatbot answering questions, HR departments can avoid these questions which "can be both repetitive and time-consuming." Nunn continues, "These bots can act as self-service platforms that allow the hour personnel to concentration responding

to additional advanced and pressing queries that warrant their attention". Every year, AI continues to evolve in terms of each task diversity and capability. While the most talked about example is the self-driving car, it's possible that, in the future, robots will become keepers and sharers of internal information. They'll speed up communications and increase productivity by providing instant access to the proper information, at the right times.

THE INTERNET OF THINGS:

In the next year, the rise of cloud computing will continue, with more businesses making the transition.As way as hour technical school trends go, this one is moving pretty fast.

Cloud solutions square measure an enormous priority for human resources, and businesses are already making substantial investments. Increased use of this technology is probably going to push hour experience into middle management ranks. This will unburden HR departments by repositioning middle-tier training and hierarchies. It may be that some tasks traditionally assigned to these teams get handed over to line managers. The focus of HR will move towards business performance management and execution. With the power of automation, businesses will free themselves from tedious, time-consuming obligations.

VII.CONCLUSION

A virtual Human Resource permits for various forms of flexibility, from versatile hours to versatile worker engagements. Be it the practical or money flexibility that arises from the necessity to adapt to dynamic business conditions and trends within the globe of business, it's up to human resource management, a social control operate that manages the foremost valuable assets of a company the workers, their abilities, information and skills to fulfill the wants and attain the goals of a company. As if to form it potential, organizations have already accepted IT-based networks as the way to extend flexibility joined of the conditions for timely responses to frequent and permanent changes within the setting. The ineluctable conclusion is that doing individuals management in virtual hour ideas sets a series of latest necessities before associate employer: to rent the correct worker or skilled, ready to immerse in innovative technologies and shift from the standard work thought to a versatile, virtual business environment; to acknowledge the traits of the approaching generation of staff (the supposed millennium Generation), to whom geographic parameters, the placement or time, don't matter pretty much in doing employment to spot the right technique of communication and a degree of flexibility to be applied

on assignments and schedules to acknowledge and use the benefits of latest technologies.

VIII. REFERENCE

1. Scott A. Snell(2001). "Virtual HR Departments: Getting Out of the Middle". CAHRS Working Paper Series. CAHRS WP01-08.
   http://digitalcommons.ilr.cornell.edu/cahrswp/71

2. Sharyn D. Gardner, David P. Lepak, Kathryn M. Bartol(2003)."Virtual HR: The impact of information technology on the human resource professional". Journal of Vocational Behaviour. Volume 63, No: 63, PP.159-179. DOI:10.1016/S0001-879(03)00039-3

3. Jonathan P. West, Evan M. Berman(2001)."From Traditional to Virtual HR: Is the Transition Occurring in Local Government?". Review of public personnel administration. Volume 21, No: 1, PP.38-64.

4. Strohmeier, S. Diederichsen(2010)."Human Resource Management relevant Virtual Community Research: Review and Outlook". Academic workshop on electronic Human Resource management. Volume 570, PP.207-228. ISSN 1613-0073

5. Kahai, S.S., Carroll, E. & Jestice, R. (2007) ."Team Collaboration in Virtual Worlds. The DATA BASE for Advances in Information Systems". Journal of the John Carroll University. Volume 38, Issue 4, PP.61-68. DOI>10.1145/1314234.1314246

6. LeTart, J. F. (1998). "A look at virtual HR: How far behind am I". Journal of HR magazine.Volume 43, PP.33-42.

7. David. P. Lepak(1998). "Virtual HR: Strategic human resource management in the 21st century". Human Resource Management Review. DOI: 10.1016/s 1053-4822(98)90003-1

8. Dr. Amol Murgai(2018). "Role of Artificial Intelligence in transforming Human Resource Management". International Journal of Trend in Scientific Research and Development(IJTSRD). Volume 2, Issue 3 ISSN No: 2456-6470, PP.877-881.

9. R.Broderick and J. W. Boudreau(1991). "Human Resource Management, Information Technology, and the Competitive Edge". CAHRS Working Paper Series. Paper.351. https://digitalcommon.ilr.cornell.edu/ cahrswp/351

10. Li Ma, Maolin Ye(2015). "The Role of Electronic Human Resource Management in Contemporary Human Resource Management". School of Management, Jinan University. Volume 3, No: 04, PP.71-78. DOI:10.4236/jss.2015.34009

11. Liangtie Dai, Yang He, Guangdong Xing(2015)."The Construction of Human Resource Management Cloud Service Platform". School of Management, Jinan University . Volume 07, No: 01, PP.1-6. DOI:10.4236/iim.2015.71001

12. Zemliansky, P. & St.Amant, K. (2008)."Handbook of Research on Virtual Workplaces and the New Nature of Business Practices, Information Science Reference". IEEE Transaction of Professional Communication. Volume 53, No: 3, PP.322-324

13. Venkatesh, V., Morris, M.G., Davis, G.B. & Davis, F.D. (2003). "User Acceptance of Information Technology: Toward a Unified View". MIS Quarterly. Volume 27, No:3, PP:425-478

14. Maclaran, P. & Catterall, M. (2002). "Researching the Social Web: Marketing Information from Virtual Communities". Marketing Intelligence & Planning. Volume 20, No:6, PP:319-326.
    https://doi.org/10.1108/02634500210445374

15. Laumer, S., Eckhardt, A. & Weitzel, T. (2008). "Recruiting IT Professionals in a Virtual World". Conference Proceedings PACIS, China. https://pdfs.semanticscholar.org

16. Gupta, S. & Kim, H.-W. (2007). "Developing the Commitment to Virtual Community: the Balanced Effects of Cognition and Affect". Information Resources Management Journal.Volume 20, No.1, PP.28-45.

17. Ardichvili, A. (2008). "Learning and Knowledge Sharing in Virtual Communities of Practice: Motivators, Barriers and Enablers". Advances in the Developing Human Resources. Volume 10. PP. 541-554.

18. Hollister, J. (2015). "Human Resource Goes Virtual". http://www.leagueofpower.com/weekend-business

19. Tartell,R.(2015)."Virtual Leadership-Closing the Distance, Training". https://www.trainingmag.com

20. Lepsinger, R., De Rosa, D, (2015). "How to lead an effective virtual team". Ivey Business Journal.

21. http://iveybusinessjournal.com/how-tolead-an-effective-virtual-team