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Exploring Artificial Intelligence for HR in VUCA Times

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Abstract:
The focus today is with new generation technologies like Artificial Intelligence, Machine learning, block chain etc. disrupting the business environment. They are challenging Human Intelligence, Talents and Skills. Everyone's biggest grappling question is; will Artificial Intelligence replace Human Workforce as the workforce world is evolving at meteoric pace. The workplace dynamics too changing with Millennials and Generation Z, whose aspirations, interests and passions vary in contrast to the older generational cohorts. Innovation is no longer restricted to the process of creating something new from beginning to end but includes the capacity to quickly adopt externally created innovations that may be of benefit to the organization. It is widely acknowledged that human resource managers will have to innovate and transform their businesses continuously to keep pace with the ever changing and evolving business landscape in the VUCA world (Volatility, Uncertainty, Complexity and Ambiguity). Such situations arises with ever greater frequency not giving time to prepare and even if do another will follows. The paper intends to share conceptual use of artificial intelligence in human resource functions at VUCA times.

Keywords**:** *Artificial Intelligence, Human Resource, VUCA, AI and HR, AI and VUCA.*

I. INTRODUCTION

Technology accelerates the speed of computing power of machines that will surpass the human brain capacity. Such kind of advancement is difficult for humans, who are attuned to think linearly. Technology and society are built into a complex network, so often faster changes in technology reflects faster in society. The workplace dynamics too changing with Millennials and Generation Z, whose aspirations, interests and passions vary in contrast to the older generational cohorts. Daily we listen to innovations in corporate world with fourth industrial revolution technologies like Artificial Intelligence, Machine Learning, Deep learning, Blockchain are enhancing human to work with more accurate decision making. They become prevalent as the change becomes constant that moving the business world into VUCA context. VUCA becomes rationale for disruptive innovation and self-driver. VUCA becomes a trendy managerial acronym short for Volatility, Uncertainty, Complexity and Ambiguity conflates four distinct types of responses for the four challenging situations. This is often discussed in corporate arena that throw off the strategy and planning making their leaders unable to keep pace with vagaries of VUCA world. In this kind of scenario, organizations to be agile to cater the changing demands of industry and ever-changing regulations in a competitive dynamic environment. The long-term strategies, business plans and structure become passé in most industries, especially service industries. If Human Resource (HR) has to enable strategies and business plans, they have to be flexible and dynamic. Even now, corporates prefer to embed the people management function in to a regular work unit despite separate HR department, which may entrust more results and profit driven. To have relatively less impact we need stable HR systems understanding the VUCA situation to lead by developing strategies tactfully through the unfamiliar, challenging and rapidly evolving business environment. Artificial Intelligence (AI) and Machine Learning (ML) are the contemporary technological key terms that have significant entanglement with human resource management practices. A perfect combination of AI with Big Data embraces Human Resource (HR) to develop decision based on proven data patterns rather than instinct alone while undertaking challenges in dynamic environment and encourage lessening their fears in VUCA world.

II. VUCA WORLD

In the 1990s with an intention to indicate a dangerous situation in Afghanistan and Iraq, the US Army War College coined the jargon VUCA (Volatility, Uncertainty, Complexity and Ambiguity). VUCA has found its way into the business lexicon after it published in a book titled Prepared and Resolved by Daniel Wolf in 2006 in the context of strategic business leadership. Consecutively the term is adopted by business leaders to describe the drastically

January-February 2020
ISSN: 0193-4120 Page No. 2732 - 2742

changing global business environment. In addition to the demands of consumer markets and forced price wars adds fuel to the fire.

A. V-Volatility

Volatility broach the magnitude, nature, speed, volume and dynamics of change" (Horney, Rasmore, & O'Shea, 201 0, p. 33). The challenge is erratic changes in the existing system with positive or negative implications but in most of the cases, it will have negative influences, which creates more instability and wider fluctuations. In fact, many professionals observed change is constant and HR professionals find themselves constantly re-organizing as their organizations endeavor to respond.

B. U- Uncertainty

Uncertainty is described as the total unpredictability of issues and events (Horney et ai, 2010, p. 33). In a volatile world, not only is the future unlikely to be much like the past, but the present is often very different too. Despite incomplete information, the event's basic cause and effect are known. Change is possible but not expected. The increase in the occurrence of uncertain events, it will become hard for an organization to figure out where the change is necessary and at functions that will help and survive for future too.

C. C- Complexity

Complexity refers to the confounding issues and the chaos that encircle any organization (Horney et al., 2010, p. 33). Uncertainty is reinforced further by complexity. This situation has many interconnected nodes and variables. With the available information can be predicted but it may harness to process large data. Because of such intricate data generated in multilayered networks, some actions can have unintended consequences which are unpredictable. .

D. A- Ambiguity

Ambiguity points to the haziness of reality and the mixed meanings of conditions (Horney et al., 2010, p. 33). In this situation, one may not have complete clear idea of causal relationships in the environment. No precedents exist and have to face "unknown unknowns". As 'Unknown unknowns', abound in complex, uncertain and volatile environments, and so ambiguity increases. We cannot reach clarity and agreement about the meaning and significance of events. Thus, increase in doubt and hesitancy, as an event is interpreted differently by different persons turning it is not easy to take hold. Therefore, in a highly ambiguous situation, it can be difficult to reach decisions and design strategies.

Fig. 1: VUCA - Adopted from Harvard Business Review, by Nathan Bennett and G. James Lemoine.

III. STATEMENT OF THE PROBLEM

The Global Business Dynamics are exponentially growing in a multifarious notion that are contributing to VUCA. Technological advancement and experimentation with positive benefits leads to a competitive edge in the market. The business process that are efficiently managing radical innovation sustain in the market. It's not easy for human always predict the change without converting data to knowledge at an organization. Human Resource became the one of the strategic planners to forecast and sustain in VUCA context developing right Human Capital Management but with the help of Artificial Intelligence in a faster way. This conceptual study looks at the various forces leading to a VUCA world context and is focused on understanding how the Human Resource Management functions needs to position itself for the organization future. This conceptual study will enable organizations to become aware and sensitive to the changing needs of the people, process and profitability.

IV. METHODOLOGY

This conceptual exploratory study is based on reviewed literature from news articles, research reports by leading consulting firms, from websites of several organizations and assumptions of researcher.

V. WHY THE ARTIFICIAL INTELLIGENCE TIME IS NOW?

Artificial Intelligence (AI) is ubiquitous with an exponential growth in today's business culture. In fact, the lines between business and technology are becoming blurry. Using innovative business models by new entrants are turning into severe threats to incumbents, many of which have been too slow to adjust. These newer companies are doing the equivalent of unbundling the monolithic companies. The old conception of "first define the business and then figure out the technologies to enable that business" is not possible anymore. Tomorrow's business models will be created based on the technologies that are available at the time. Artificial Intelligence doesn't exist as a single technology but of an intelligent interweaving of multifarious technologies includes machine learning, deep learning, bigdata, cloud computing, blockchain and virtual reality etc. Organizations will be overwhelmed by data, AI will be the ideal technology absorbs this data to learn and detect underlying patterns from it finding causal relationships. For this reason, it will become an integral part of most organizations. As most businesses' processes are infused with some form of AI, undergoing massive disruption. But, just like we have gotten used to technologies such as computers and the internet, we will get used to AI. The computer is still programmed, but the program is not a set of instructions; rather, it gives the machine a specific model, and the model is then populated by the data. If the input data changes, the model values change and therefore the results change. The programming paradigm is driven by logic, while the machine learning paradigm is driven by data.

TEST Engineering & Management

January-February 2020
ISSN: 0193-4120 Page No. 3984 - 3987

A. Homosapiens Intuition on Uncertainty

VUCA is highly interrelated often it is discussed under parapluie term of uncertainty. In order to respond to uncertainty with long term arousal using sensory data and with short term arousal leads to be adaptive to volatile environments (Hirsh, Mar and Peterson, 2012) forcing brain to make unpredictable situations into predictable where sometimes the consequences for human psychology becomes increasing VUCA. If the brain predictions were successful it believes that previous decision "mental model" (i.e. person intuition about their actions decisions based on the perceived causal relationship between variables) is good and can be repeated. But it may not always be possible in VUCA world. People who are less anxious about change (volatility), unpredictability (uncertainty), information overload (complexity), and conflicting mental models (ambiguity) function better in dynamic environments than those who show high anxiety (Behrens, 2007).

B. Role of Artificial Intelligence in Navigating VUCA

People rely on intelligence powered technology that can learn from us, know about us and augment in making decisions which is broadly named as Artificial Intelligence (AI). Resurgent Artificial Intelligence with super convergence of other technologies like machine learning, deep learning, blockchain, cloud computing etc. made it as omnipresent capturing almost every business function and becomes a threat to human talent and skills in this VUCA world. As mentioned by Andrew Ng, there are two types of Artificial Intelligence: The 'General AI' is which having human like approach and 'Narrow AI' which is task oriented. The most effective way of machine learning is Artificial Neural Networks, ideally replicate some functions of the human brain. (Turing, 1950; Newell and Simon, 1961; LeCun, Bengio and Hinton, 2015).

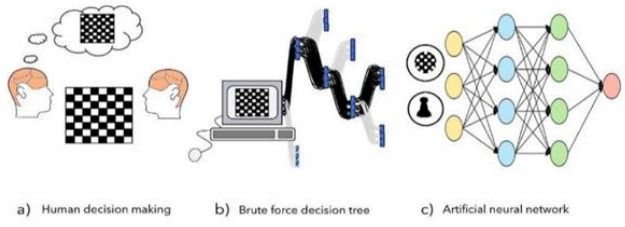

Fig. 2: Decision making by Human and Artificial Intelligence (*Source: Future of Education and Skills 2030: Curriculum Analysis*)

a) Rule-based mental models of Human; b) computer's brute force computing for all possible ways (i.e. all permutations and combinations); c) brain-inspired Artificial Neural Networks (ANN) now develop rule based dynamic strategies and learn by playing humans and other AI.

Complexity and ambiguity magnetite's from VUCA; within which the Narrow form of AI can be very achievable compared to humans (Palmer and Chakravarty, 2014). It can magnitude the high degree of uncertainty with brute force approach; Once, the world chess champion Garry Kasparov lost a series of games in 1977 by IBM's Deep Blue.

VI. Dealing with VUCA by AI powered HR

A. Volatility: Look Forward

The challenge is unexpected, dynamic, quick and intense to changing environments may be for unknown duration like driving a car watching only in a rear-view mirror with no idea of what is coming in front. HRs making decisions purely on the previous data available that collected spending all the time re-collecting the right data and assess the impact of decisions made. Workforce planning can be volatile that there may be huge rise in recruitment and layoffs in different departments at the same time. It needs to be evaluated the employee output, productivity and their engagement and motivation. Most of the HRs still using excel sheets and manual formulas. Artificial Intelligence powered analytics will give predictive analytics of workforce to beat the volatile recruitment and layoffs with 24/7*365 flexible performance management system and insights to least to highest performers in the organization. IBMs AI can predict with 95% accuracy which employee will quit and now it holds a patent of "predictive attrition program" Predictive data analytics provide agility.

B. Uncertainty: Threat and Opportunity

A lack of predictability around the issues even the nature of events is known and impossible to predict outcome. Uncertainty impacts HR with the speed of Technological Innovation and flares the HR knowledge, Workforce skills raising threat to many jobs with the implication of Artificial Intelligence in Human Resource Management. Yet it's an opportunity to upskill and reskill workforce and opens new type of jobs with fluid job description for continuous evolution. Artificial Intelligence can also suggest personalized learning and development paths projecting workforce career path upwards. Leading organizations with digital investments achieve competitive advantage inexact times. HR enables flexibility, at the time of recruitment through AI gamification to find the characteristics and ensure their agility, learning ability, and ownership. Without an agile mindset flexibility could be perceived as uncertainty and may create disengagement, supercritical who engaged in turbulent times or VUCA times, to continue to be flexible.

C. Complexity: Capability Building

Capability development is about identifying capability gaps to execute the firm's strategy or to build a firm's competitive advantage for sustainability, and bridging these gaps. The capability framework can be leveraged to create and execute a customized development plan. Complexity is a situation has many interconnected variables in an environment where some information is known, available and predicted but the volume of data harness will be overwhelming but Complex functions like payroll processing, shared services are boredom as repetitive and large number of requests and recordings to be processed. Not only payroll and shared services there are much more complex aspects of HR legal, Global regulations and local government regulations and cross communication in large organizations, organizing meetings etc. Artificial Intelligence powered digital assistants can break the barriers of shared service, legal aspects,

January-February 2020
ISSN: 0193-4120 Page No. 2732 - 2742

policies, regulations, feedback. More advanced AIs with Image processing and Natural Language Processing record attendance, conduct video interviews analyzing facial expressions and feeling, screen resumes. Aligning the data, talent and technology with strategy is the key to process complexity

D. Ambiguity: Fragmentations and Incremental decisions

Causal relationships are completely unclear where no precedents exist, and have to face the unknown unknowns. The administrative burden of managing multifarious ecosystems requires endless efforts to pull them together into coherence. Fragmenting the business systems with rule based Artificial Intelligence and data driven decision-making can be the key to Ambiguity.

VII. CONCLUSION

VUCA influences business process and HR industry in a big way, turning into Human Capital Management. Artificial Intelligence is a game changer with a capability to harness large amount of raw data, find patterns and provide decision-making suggestions. Artificial Intelligence (AI). Artificial Intelligence recognize opportunities in VUCA context and proactively make strategies giving HRs a more detailed view of management and operational issues to improve operational performance. But the integration of technology in an organization is not only a technological issue. It requires changes along multiple dimensions such as social acceptance, organizational structure, business processes, vendor relationships and employee functions. Vince Barabba, argues in his book The Decision Loom that four things are necessary for an organization to recognize and react appropriately to change. An organization should: Have a mindset that is open to change, Think and act holistically, Adapt the business design to changing conditions, make decisions interactively using a wide variety of methods to sustain in VUCA world. Constant adaptation and learning should become part of DNA if not, new nimbler companies with Artificial Intelligence based business models will threaten incumbents. Still I conclude, achieving competitive advantage by any organization is not plant and machinery, not technology but people. Intellectually knowing how the future will be being only ten percent building capabilities to thrive into the future will be the other ninety percent.

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Mr. Patoori Bhanu Prakash, is a first-year doctoral candidate of Management Studies at Sri Venkateswara University. He obtained his MBA degree from the same university in 2018 and has a B. Tech, E.C.E degree from JNTUA. His research interests include Technology Management, Engineering Management, HR and Marketing. He has published four papers, attended number of conferences and attended several workshops on research methods and tools in the span of a year. He is a Life Member of ISCA. He is the co-founder of IEEE Student Branch at SVCE at the time of his graduation and took part as an organizer for TEDxTirupati.

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