Research Article

# AI for Human Capital Management and Development

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**Abstract**

Human capital development is the key factor to deal with the transformation of disruptive technology where AI will become the wave of change in the fourth industrial revolution. By then, the behavior and attitude of individuality will have been affected by the high speed of change. Therefore, the expert team, the innovation concept, the thinking design, the mind map and the mind – set must be rapidly re – arranged from Big data, the machine learning, AI, internet of fintech, mobile banking, social banking virtual reality, and simulation must be introduced for learning and training to develop the human capital management, for both public and private organizations. This paper will focus on AI and robots will come to replace workers as helper to manager and staff in the office. AI will be the factor impacting the Labor force, the personnel managers and productive procedures. If we are not able to cope with change, those said managers and workers will be a useless class of people.

**Key words:** AI, disruptive technology, robots, mobile banking apps.

**Introduction**

The disruptive technology is a tool for the exponential transformation to change the world into a fourth wave of industrial revolution, it is the empowerment to each individual. The exponential step of transformational change of all types of management and development must be in tune with the digital technology. Big Data and AI will be the global center of data available to all organizations throughout the world, whereby the arrangement of new type of 21st century office must be geared up and ready to cope with AI for administrators, managers, employees and producers.

**Objectives of Study**

    1) to present the role of the AI concept for HCM in public management,
    2) to demonstrate that AI factor can have great impact on human capital management, and
    3) to propose the readiness to cope with AI for human capital management.

**Literature Review**

Concept of Human Management:

Mission statement: The first objective is to provide a great work environment and treat everyone with respect and dignity. Working is not just a job; it is a passion (Howard Schultz and Dori Jones Yang (1997)).

**1) The principles of success of social network media**: According to Jeffrey P. Bezos (Online, 2019), the 14 principles of success are composed of (1) customer decision (center), (2) ownership, (3) invest and simplify, (4) their right/a lot, (which means ability to change the mind's concept, with the new changing environment, (5) learn and curious (which means that people have learn the new things, especially new technology), (6) hire and develop the best (refer to recruitment the competence people and keep the best ones, (7) insist high standard, (8) think big, (9) bias for action (which means don't waste time to the dispute, clearly the misunderstanding easily, (10) frugality which means know how to design downsizing organization (11) earn trust mean learn from the failure and correct it, when knowing, it is mistaken, there is no head to be blamed, (12) drive deep, means trust by it needs to reevaluate, if we notice that something may be out of order, (13) have backbone, disagree and voice out, it means that even though, your friends and your boss, if you don't agree with, you have to voice, (14) deliver results, focuses on input or result based. The above mention is the focusing on the human potentials of both employees and leaderships in organization.

These 14 points have become the principles of success of Amazon, while leadership of Steve Job always focused on new thinking, new invention and new innovation, such as, iPod, iPhone, iPad. This focus is persistent and innovative. He also applied 14 points of management as follows: 1) Focus, 2) Simplicity, 3) Take responsibility end to end, means the responsibility up to the end, 4) know where we are, when behind, leapfrog, 5) Put products before profits, 6) Focus group, don't be slave of the minority group, 7) Bend reality (Trust in building the truth), 8) Input (build and image), 9) Push for perfection (try to be number one), 10) Tolerate only "A" player (fight to get the excellent result, as fast as possible, it may look like hot temper to protest, "Bozo explosion" or good in talking only, 11) Engage face to face, meeting, 12) Know both big picture and details, 13) Combine humanities with sciences (that is the power of two great in one), and 14) Stay hungry, stay foolish (human.wordpress.com, from Google, Jan, 24, 2020).

**2) The ten concepts of Google success** are: 1) focus on customer's first, the other will follow, 2) do everything's at the best and first thing first, 3) fastest is better they slowness, 4) democratic web, 5) no need to sit on the desk to work to seek for answering, 6) you can earn the money without corruption, 7) new data are always emerged, 8) need to get data across the borderless, 9) use your competency without using, and 10) excellence is not good enough. These mentioned concepts are the principles of Google success. The present CEO of Google is Sunder Pichai, who is responsible for success of Google map, Google drive, Gmail, android system and Google chrome, Google AI, by fighting as hard as he can in the middle of intellectual employees in Google even his project and his opinions have been rejected and opposed by his top boss and his colleagues, but he said: 1) the need for customer is the advancement of the business, 2) honor of success comes from the failure, 3) make the dream come true, that is the most value in life and his basic concept is, we use your failure as a badge of honor and in the end, he concludes his working for success is love in what you do, understand that the failure is a part of success and working for the benefits of the customers.

**3) Bill Gates'** principles of success are: 1) know how to think, life will be happy, knowing what all life is not perfect, there for, know how to help themselves, 2) able to stand on your legs,

through trying to working hard for success, 3) no pain no gain, success isn't come by chance or come from the heaven but working hard to the end, 4) change the pattern of your attitude of yourself without blaming the other people, 5) the great thing come from smallest thing, doing work step by step, learning from you mistake, 6) decide to work by your hand, step deepens on the other people, 7) the best chance has only one, when you have losing the chance, don't worry on that matter, you have to build the opportunity for you, 8) build self – values, people have 25,365 all the same, in fact, we don't have more time, time is short, you have to learn about the value of time, utilized using your time, to the way for growth for access, do not waste your time for tomorrow, 9) do on what you have to do, what you have seen in the TV, is not real world, the real world is going to work to get result, 10) be good to everyone, who are surrounding you. This is a golden rule, do follow this rule to be a success. (https://taokaemai.com/15-บทเรียนธุรกิจ-บิลล์-เกตส์/)

**4) The founder of Facebook**: Mark Zuckerberg uses his principles to success, as follows: (from https://youtube.com/watch), (1) you get what you spend your time doing, (2) Get feedback by using QA in the meeting, (3) don't worry when doing mistakes, (4) only hire people who you would work for, (5) make a chance in the world, don't give up, (6) learn from people around you and dynamic thinking, (7) build a really a good team, (8) give the best experience, learn and share their experience, (9) care the best about it which means care for the other people's ideas, (10) social bounds are critical, 11) listen to the ones who criticize you, but take it for granted.

**5) Let us listen to the success of the east industrialist,** such as Samsung which began from a grocery store to tech talent (Lovemoney.com). Samsung aims at the world class conglomerate company by focusing on human resource and technology to create best products and best service, as follows: (1) human resources, (2) mutual prosperity, (3) leading changes, (4) becoming the best and pursuing management, thereby, Samsung values; people, excellence, change, integrity, Co – prosperity and it is very interesting to see the five principles of doing business, as such (1) they comply with lens and ethical standards, respect the dignity and diversity of individuals, by competing fairly, in accordance to law and business ethics, maintain transparent accounting through accurate accounting records, do not intervenes in polities and maintain neutrality, (2) maintain a clean organizational culture, strictly separate business from public in all business activities, protect and respect the individual property of the company and matter people and create a healthy atmosphere, (3) respect the customers, shareholders and employees, customer is the top priority, pursue shareholders value oriented management make effort to improve the quality of life of employees, (4) care for the environment, safety and health, pursue eco – friendly management, emphasis on people's safely and health, (5) a truly responsible corporate citizen by establishing relationships between business partners, coexistence, co – prosperity, and respect the social and cultural charlatanistic and have cooperative management (mutual prosperity/cooperation (Samsung.com)

**6) AI for Management**. AI is accepted worldwide because it is the period of the great socio – portico economic transformation of the world, convenient for people in the globe. But as you have known, AI will come to replace the job of workers in the office in the form of machine or robots. That is the most important aspect of Big data. You may ask what is AI in the Big Data, the answer is, in order to make an intelligent computer, we have to use Big Data in the beginner's machine called machine learning, to get the result. When that result was gotten, that result will be used for action through artificial intelligence (AI), and to make it easy, Big Data is the input to let the computer learning to take place and intact (Kulavanchainanda, 2019). AI and machine learning is the foundation of 5G, or AI is a branch of computer science that emphasizes in the development of

intelligence machines, thinking and working likes humans; for example, speech recognition, problem solving, learning and planning, (Techopedia,online). AI uses algorithms and physical data to create something called a propensity model which is making predictions. So Big data may be called data science; therefore, AI is used through algorithm, which is a step by step method of solving a problem, used for data processing, calculation and other related computer and Mathematica (Kuvanitchaiananda,2019), and how AI is applied in human resource management. First of all, the concept of human resource management has to apply at all three levels: human resource development (HRM), human development (HD), and human capital development (HCD). At national level, what we need the most is, how to develop the people from birth to death by developing the people through learning, experiencing and skilling methods, to produce the highest ability and potentiality as schools, colleges gift brain, smart or genius brain and able to produce their innovation and able to establish the start up to innovate and invention then multiplying that products to the customers (innovation + invention × commercialization). Even though the people were fed well, well learning from the best institutions, but they don't even have special brain to create, innovate and invent the best products and services to the world, as the leader of the global disruptive technology, as above mentioned.

7) **Focus on HRM/D** in the public and private sector which we referred to the principles by focusing on (1) attract, develop and retain quality employees, (2) strategic human resource planning, (3) recruiting process, (4) equal employment, (5) orientation on or off – the job training, (6) attracting a diverse workforce, (7) employees motivated, (8) employee satisfaction as job designer, job rotation, job enlargement, job enrichment, (9) flexible scheduling, job sharing, telecommuting (working from outside the office) and foster freedom and responsibility (McCord, 2017), (10) compensation, as pay, benefits, earn wages, job earn salaries, receive commissions based on sales or based on piecework approach which are paid from output, (11) year and bonuses, participate in profit sharing plans or receive stuck options, (12) manager conduct performance appraisals to evaluate work performance, (13) turnovers as employees are unsatisfied with their job such case of firms, lay off workers, or downsize, to cut costs (Virginia Tech, online) While the development of human capital development, according to developing human resources according to Nadler L. (1970), stated that (1) learning process, (2) training process, (3) developing process in fact the concept and theory of human resource management /development has two level (1) is the macro level, called policy strategy of each nation, or organization which focuses on (HRM/D+HD X HCM/D) (Dockthaisong, 2008) while in the micro level is focused on organization or company as we are always studied hover, to the 13 principles are from (Virginia Tech, online) 100 books according to human resources development, management is always focused on the same direction on firms and organizations

8) **Minds Science and Development Training** of Human Being according to Gotama Buddha who emphasized Sikkha to educate, train and develop human competency, and potentiality of all human beings on three levels:

**Level I:** Right view **2:** Right though focusing on building genius brain, (1) Right Speech, (2) Right Action (3) Right Livelihood (4) Right Effort. This level 2 is focused on universal human behavior or action) **3:** (1) Right Mindfulness, (2) Right Concentration (This level is focused in the universal training method to train a genius human being).

The special path of training is focused on Sikkha that is a development of human capital, according to the Gotama Buddha concept, emphasizing on the good behavior of the action toward self and other people on speaking, behaving and doing the right profession, or occupation without harming lives. This is the first level. Then, if we understand the view or right concept, the road to

accomplishment of their objectives will be success. But the four value's system must be applied, such as (1) know the real facing problems clearly, (2) know the roots of that problems, where it comes from, (3) know how to estimate and get rid of the causes of the problem by intellectual wisdom to solve the problem that called Magga (path). In order to build the brain power, therefore the practice of minds development or mind's science must use the two great methods or universal method, called meditation by focusing on one point or fist thing first, called tranquil mind, and the most value's method is mindfulness meditation.

This is the deep root of purifying the mind, brain, behavior of the people to cope with exponential transformation of changing of the present world.

By the measurement of human capital according to the world economic forum Global human capital index, and World Bank human capital index (https:Wikipedia.org.wiki), human capital refers to the habits, knowledge, social and personality attributes and creativity supported by the findings of Gary Becker, an economist and Nobel laureate from the University of Chicago, Jacob Mincer and Theodore Schultz, who have presented their conceptualization and modeling work, using human capital as a key factor and also, Paul Rower, who was Jointly awarded Nobel prize in 2018, who also founded the modern innovation driven approach to understanding economic growth and also, Cornell Robert Gibbons, (MIT) and Michael Waldman who stated that skill required for task's performance. However, since Adam Smith 18th century, up to Jacob Mincer (1958), Theodore Schultz (1979), Mincer and Gary Becker (1964) concluded that human capital is the means of production, human brain is the key factor of the capital of economic development. The differentiation of the national development must focus on the outcome of human ability, the HRD/M and human development is the policy and the agenda to develop the citizen through educating, training and developing but the problem is how to produce the best gift and genius brain to have innovation + invention X commercialization to invent and produce the goods and services, persons who forward the world, this kind of such people, are difficult to have. If we have a lot of people with the great mind and brain, we will have great innovators and inventors. That is the cultivation of genius brain of human capital but the brainless leaders and people are what people are worrisome and troublesome.

**The Role of AI for HCM.**

The AI for HCM is divided into 1) the role of AI in human capital management, 2) the adaptation of AI for administrators, and 3) human resources management for both public and private sectors. These three types of AI - HCM will be elaborated as follows:

(1) the role of human capital development/management is the stock of people in the nation, government, business, and family, they have to build the wellbeing of family, societies and the nation to cope with the environmental change, as the family has to take care of each family, as well as possible. The society must be in peace by civilized culture, region and intellectual capacity of both public and private sectors to guarantee the best education, calm and humanize living by giving the right and privilege to people at large. The human development must be synchronized using with the Big data to build machine learning and build the innovation by internet of things to work and to expand the unit of network thru social media, by data science. AI works as input, process and output of job's performance through algorithms, that work in package step by step to answer the question for managers.

(2) AI is the system of social media by working through robots, blockchain, fintech, mobile bank social bank, virtual reality, virtual argument, and simulation. The persons who sets the

program is consisted of data scientists, who lay out the plan how to use the data, and how to collect the data to store it in data lake, so the person who is able to design the variable system is data system scientist while the data engineer is, one, who designs to set the relation of operational data, and the data analysts are the ones, who are able to analyze the program set and operation system as (Kuvanitchaiananda,2562: pp.229 – 232), points out that the developing nations lacked of these experts, especially the professionals data analyze will grow up in the position up to the zenith. Both public and private sector need more and most data scientist, data engineer and data analyze they are the captain to lead the work well done systematically

(3) The system analyst must able to design the data pipe line from the beginning up to the end of the project (Kudavanitchainanada, 2562: 231). It is the era of the great economic revolution all nations have to face the unpredictable change of human life due to the climate change. So, the capital and physical resources are limited, and so far the shift of digital and AI economic have been pervasive; however, the conflict of interests has been wildly spread out between those who have disruptive technology and those who have not. There is a highly gap of competition for advantages of the leaders who have to see the threat of protection, the monopolization of the AI (5G Technology), which brings about the invention and production of sophisticated weapons to protect their interests by artificial intelligence, to build war machine for pre-emptive strike anywhere.

The personnel need to cope with AI in their offices of because robots will replace both personnel managers and employees, as Peter F. Drucker (1989) said, "If you do not change, someone will come to change you" then, before the machine, robots come to take your job, there are two ways to prepare to meet the consequences or to become a useless class. All managers and employees have to be ready to prepare to cope with the reality of challenging by robots.

1. If they are not ready to learn the new technology, then the employees will lose the job, because machine can work better than laborers.

2. The personnel have to prepare to deal with disruptive technology, both in public and private sectors. Love it – or not, AI has already come in your hand phone, in market as Google AI, mobile banking and social banking able to send money to the second party through blockchain, without passing to the third agency.

3. Also, the system of learning is rapid, changing through virtual reality, simulation and online, and health watch, distance medical treatment or robot doctors. However, the factors of health care by AI – Doctor of Medicine deliver more hope, more, time, and more power to access data through AIM. Artificial intelligence management, internet of things, mobile banking and social banking are the view AP for opening the computer program, to search for solution of problems, cost and benefits, the trouble of strikers, the Laboure Union, the wage and compensation to retain the employees at industries and factories. The money crises have taken place; therefore, the quarrels between the stockholders, and employees will be ended by the machine learning through AI and robots, the robots are able to advise and reduce conflicts, strikes, or slowdown of work.

4. Since the industrial force has wrangled with the third party as the Big machine factory has changed the status of the production process, by using robots, instead of work force. Both business owners and the employees of both public and private sectors must change the system of human side of enterprise, by using a technological side of enterprise. So the Big data, machine learning, AI, with the role of robots, have come to reduce the workers. As Tapscott, (1995) points out, in the era of digital economy, robots will come to replace the labors. Then what will happen to the a million of labors to cut cost labors force throughout the global? The stockholder wants to cut cost, so, the labors will be abandoned and replaced, by robots and electronic working machine.

When the disruptive technology comes to be installed in the industry, the hard machine, working system of labors force will be eliminated absolutely, then of automate machine will be the most urgent need of the investors, to sue new technology, the labors will become a dead – wood, useless class of people.

5. The upheaval changes of human capital management. By this fact, the department of personnel administration, director and manager of personnel office will be removed or to reduce, downsizing the office or the office can be used only the back office by Mr. Robots, then the artificial intelligence will invade all public and private actor through cloud computing, which AI is the center of service covering with processing system and unite of data collection and on line system, to reduce the cost and to save time and no need to invest and build the self-company's computer system. This cloud computing is used the service for free and pay for using it.

6. While AI is useful and very important for the human capital management and development, by which the artificial intelligence from Big data (Marr, 2016) and a machine learning, that has ability and competency to work as a man. Robots can imitate the voice, face recognition, and able to talk as giving advice to people who need help from the machine box, package and robots clearly and inadequately on giving information.

7. AI is a branch of computer science which can be used in the field of engineering, philosophy, psychology biology and it can help learning process, thinking design, giving reasons, adaptive system, deductive inference and working as a brain and AI is able to increase value of success of business

The manager of human capital development has to re – study the duty and the function of AI rapidly, the question may arise why! The office of HRM/D has to be readjusted, otherwise, it will be replaced by robots to reduce the labor's force from 100 people to only 4 people, who work, control and taking care of product in only 4 shifts, as an example, working 8 hours per person, time as $(8 + 8 + 8 = 24)$. However, the robots monitor will let the robots working as machine orders machine. Machine monitors the new duty of personnel manager, they must concern with the strategy of working force, recruiting, mobile banking, and social banking training, retraining, motivating, grievance, benefits, sick leave, conflict and resolution, salary, pension punishment, turnover, head hunter, personal training on the job and off the job training.

**8. Proposal for the readiness to cope with AI** for HCM's trend as follows: 1) Search for intellectual of each employees and encourage them to work for wards objectives and the code of conduct of the company, including creating the best environment, improve the standardization of the job performance, while wage system have to pay on time, in case of business transaction, the mobile bank and social bank will be used through the system to do the business by peer to peer without the third party, 2) The replacement of labor's force by robots is the elimination of both workers and managers, even the personnel office will be reduced the staff or even personnel manager, it is due to the robots are able to do the work as (1) acting humanly, (able to communicate with man by using natural language processing, using voice to order computer to type, able to use sensor and machine learning, able to learn by itself and able to prove the current information, and able to adapt to environmental change, (2) thinking humanly that is able to think as human, and able to analysis the thinking of human by using cognitive science, and analysis of chemical electricity of in the human's body while thinking and even to exchange the electric charge, (3) thinking rationally reasoning, thinking right by using logic to search for reason's as answering, (4) acting rationally (the action will be done through reasoning and able to reduce the problems of its environment, including able to analyze on the surrounding(**Vincent, 2017: Online**).

AI has impacted HCM through disruptive technology as the values of big amount of data, as machine learning, internet of things, satirical intelligence, blockchain fintech as mobile bank and social bank will have crucial impact on old culture, pattern of office working, while the fintech is concerned with the mobile banking, social banking, blockchain, virtual reality, simulation will not be explain in more detail. Those above mentioned are supported by **Gini Ronelly in (https://www.the gaudian.com. technology, Jan 5, 2020),** which said that how AI help good managers be great as follows: AI can build the driverless trucks, drone, even provide to the advance careers and business that is a breakthrough which enable good manager to be great because AI presents the duty and function for individuals and organization to success when we compare to humans with AI is able to crunch numbers identify the patterns and make faster data driven decisions

AI impact on HCM as hazard, business review from **techtalkthai.com (Online)** refers to Big data and data science, cloud systems, has giver the knowledge which states that 5 principles will change the management throughout the world, the topic is how artificial intelligence will redefine management as the result of the meeting of 1,770 managers throughout the world that come from 14 nations and has interviewed the digital transformation of 37 key organizational informants which concluded that (1) AI is able to control job performance and collaboration assistance to the administrators and to follow working conditions, statistics and job's details, (2) the administrators focus on decision-making, therefore the machine learning has the role to assist and recommendation to the administrators, but robots don't make decision instead of the administrators, (3) the machine is not competitors, to man but it is colleagues, (4) the administrators are the one who make design thinking from the basic work that has been done before, (5) when the basic work has been cleared by AI, but the social net work help the employees development and work together as a team and also the Harvard business review has supported the important role of AI as: 1) the administrator is able to plan in advance by the using AI to help, 2) AI is able to use as KPI that able to change the organization because AI has increased the new competency, (3) AI is able to access to the information, KPI measurement of job's performance, but the most success is the high - job performances are the innovative thinking, ability to work as a team, participative engagement, ability to decision and competence team, however, AI will maximize the profit to the organization, but AI is not able to manage as man. If you are not cleared on what AI has impact to the new management, then you may think of the terminator, or I robot in the movie that AI is able to build the machine, behaves likes man, thereby AI may divided in to 4 groups as (1) acting humanly, with have the nerve as human and able to see and receive the picture by sensor, and also the machine learning is able to self-learning, able to verify the events of situation happening and also able to adapt to environment, (2) thinking humanly, (3) thinking rationally, (4) action rationally (AI – tech talk Thai)

AI impact on Human Capital Development: Kolbjornsrad, Amico and Thomas, (2016) posted the question on the leadership development that how artificial intelligence will redefine management, and the answer is AI will upgrade the workfare, especially for easy to automate jobs and AI will able to do administrative tasks that consume much of manager's time faster, better and at a lower cost.

On the part of our opinions: The role of AI has shifted from depending on man and machine to machine ordering machine as machine learning, departing from analogs method to – AI works at a man, AI has ability, creativity, accountability, become an assistant to expert teams, a center of company's production, able to help the HRM, HDM to become a great HCM to start up the SME/L and unicorn projects. Suthigorn Kingkeo, a consultant and Surapit Promasit, director of global

MBA, at Thammasat University stated on the roles of disruptive technology in the human resources (HR) that the old practiced of traditional routine of the HR's manager have to prepare to meet the challenge of disruptive technology by ways of design thinking, growth, mindset, problem solving skill, Robots will be the real threat and the genius machine in the industrial management, because Robots are able to work and have a decision rationally and independently, (Ts–tech source, December 17, 2018). while as Sundar Pichai (as cited in Iansiti and Lakhani, 2020) 51), Google CEO, announced that putting AI at the core in company by shifting from the mobile to AI first, AI is a core center of industrial operation model.

**Conclusion:**

AI is the center of all types of industrial production and the spearhead of disruptive technology. So, the top success of social network media of global executives, must have innovative concepts to start up their enterprises using Big data (AI) to the reach the zenith point. Their principles of success have been reviewed as the core value of this paper. To face the challenges and trends of coming disruptive technology, however, I pointed out that the real time must be replaced by the high-speed runtime to cope with and readiness to train the managers and employees to cope with the exponential change by the method of continuous learning process of new disruptive technological trends.

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