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# MOOC as a Recruitment and Retention Tool of the Indian Healthcare Employees: A Review

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# ABSTRACT

Almost 80 to 90% of jobs in the Indian health care sector are vacant, despite health care being categorized as one of the largest sectors in terms of revenue (IBEF, 2018). This deficit is primarily due to lack of healthcare professionals and the presence of unqualified workers. Moreover, the standard of medical education available in India has also been questioned due to the gap in information on the latest technologies and innovations. The possibility of going for specialized higher medical education has also been restricted only to a certain set of students. This makes the job of the recruiter difficult as the chief aim of talent management in healthcare is to select the best professionals for the job and eventually to retain them. Thus, the 'human resource in health crisis' situation in the Indian healthcare industry can be improved by recruiting the health care professionals who have 'upgraded' their skills with proper training through various professional courses. One of the solutions lies in the use of corporate Massive Open Online Courses (MOOC). Recently, it has been observed that MOOC can be a promising channel for delivering medical education. Our study reviews the use of MOOC for improving the quality of knowledge and skills of healthcare professionals. This will lead to enhanced job acquirement of health care workers and further retention in their jobs. Our study contributes to the existing literature on healthcare by providing a practical solution for a faster and easier process of up scaling the quality of health care professionals in an inexpensive and easily accessible manner using MOOC. The awareness level and status of MOOC use in medical education globally and in India has been discussed. Along with this, the implementation and the constraints associated with MOOC specific to India have been described. From the HR point of view, corporate MOOC also acts as a means of catering to tailor made needs, thereby also acting as an effective tool to hire and retain workers of the healthcare sector. The concept of using MOOC as a job retention approach has not yet been explored in the area of healthcare industry, but seems to have a huge potential for the future.

Keywords: Recruitment, Retention, Health Care, MOOC benefits & advantages etc.

# **INTRODUCTION:**

World Health Organization (WHO) has expressed human resources as the integral 'building blocks' for health care industry because they are responsible for almost <sup>3</sup>/<sub>4</sub> of the recurring cost in total health care (Rajbanghsi et al., 2017). However, human resources have been neglected by most of the developing nations, including India even though the Indian market boasts of being among the top three among the world in healthcare (IBEF, 2018). India has been on the list of countries that are facing 'human resources in health crisis' (WHO, 2010). The state of the Indian healthcare sector in terms of quality and its accessibility is pitiable at a ranking of 145 within 195 countries (IBEF, 2018). This is primarily due to the existing acute scarcity of health care personnel in India with about 80 to 90% vacancies (Rao, 2012; ILO, 2014; Bajpai, 2014; Sinha and Sigamani, 2016). This deficiency has been observed in all zones and areas, covering urban and rural regions, including public and

private sectors (Bajpai, 2014). This deficit has serious consequences leading to fall in quality of health care, increase in healthcare related expenses and rejection of services (Sinha and Sigamani, 2016) To improve this situation, the National Health Mission (NMH) launched by Government of India (GoI) since 2005 focuses on alluring more and more health care workers (Rajbangshi et al., 2017). Still, the shortage in the work force of health workers exists and has been evaluated to be in the tune of 1.54 million for doctors and 2.4 million for nurses (IBEF, 2018). Therefore, the immediate solution to overcome this lies in mass recruitment of health care worker and ensuring their retention. Our study aims to review the challenges existing that are faced by the HR of the organizations during the recruitment and retention of health care workers and to identify possible measures of improving the current scenario of medical education in India.

This paper comprises of the following sections. The first section introduces us to the gravity of the situation followed by a discussion on the various difficulties faced in recruitment and retention in the Indian health care sector, followed by the strategies that can improve the situation using Massive Online Open Courses (MOOC). This is followed by a short history of MOOC, its benefits, its significance in the field of medical education, the level of awareness, components, types associated with MOOC. Moreover, the beneficiaries, drivers, status of global and national use, the process of implementation in India and its limitations are also discussed. The next section describes how MOOC can be used as a tool for recruitment and retention in the healthcare industry. Finally, research opportunities arising from our study have been proposed.

# FACTORS AFFECTING RECRUITMENT AND RETENTION OF HEALTH CARE EMPLOYEES:

On searching for the factors impacting employment and satisfaction of the healthcare workers, it was realized that the existing studies have been skewed towards the perspective of health care professionals (ILO, 2014; Bajpai, 2014; Sinha and Sigamani 2016; Rajbangshi et al., 2017) and not from the HR aspect of the organizations.

The common HR challenges in the health care industry include talent deficits at all levels, requirement for strong globally accepted HR management processes and practices, absence of training for new posts, corporatization, etc. (Srinivasan and Chandwani, 2014). Moreover, within doctors and nurses, urbanization of regions and overall migration either to urban regions or other countries is also changing recruitment dynamics (ILO, 2014 & Sinha and Sigamani, 2016). However, the HR challenges for paramedical and technical workers are dissimilar compared to the challenges posed by the doctors and nurses (Srinivasan and Chandwani, 2014).

Mbemba et al. (2016) reviewed the problems faced by the health care employees in their paper on recruitment and retention in remote and rural regions across the world. Rajbangshi et al., (2017) described that the health care workers were motivated by four major themes such as personal, kinship, financial and career. The personal factor included their place of origin (urban or rural) and spiritual inspiration, whereas kinship meant service to their own community or region and family support. The challenges faced by health care employees included their living conditions, work environment, financial reasons, professional difficulties and social interaction (Rajbangshi et al., 2017). Sinha and Sigamani (2016) also pointed that job factors, personal and socioeconomic conditions, policies, infrastructure, opportunities, work culture and recognition play a critical role in attrition. The availability of basic facilities such as electricity and water, proper transportation and communication, quality and safety of the individuals were considered as proper living conditions, while conducive work environment was indicated by the presence of adequate amount of medicines and equipments, distributed work load, no additional work, follow of staffing norms and safe conditions (Rajbangshi et al., 2017). The financial factor covered issues related to income, no differences in pay among employees at equal level, regular compensation and allowances, while professional issues include no bias due to job contract type or political connections and the presence of any professional growth. The major concern for health care professionals also included the scope of educational facilities for their children and social responsibility towards their community. The demographics, childhood upbringing, place of upbringing, individual service values, professional growth, cohabitation with family, family wellbeing, place of work, pay scale, infrastructure, management and work policies also influence retention.

# DEMAND AND SUPPLY IN HEALTHCARE:

The deficit in the human resources in health is not just due to the absence of health care professionals, but also due to the presence of a substantial amount of unqualified workers (Rao et al., 2012; Sinha and Sigamani, 2016). Nowadays, there is a concept of niche recruitment that involves the selection of a particular type of health care professional (ILO, 2014). This demand and supply can be met only by increasing the proportion of quality medical education in the country. The expenditure on education by the GoI is around 3%, which is way

lower than the world average of 4.8% (World Bank, 2018). Moreover, Indians do not prioritize spending too much on the purpose education (Sachdeva et al., 2015). In spite of this, India has a massive medical student population (highest in the world) as recently there have been a boom in the number of universities and institutions (Sood and Singh, 2012). However, the education quality has suffered due to a shortage of faculty in the traditional courses of the universities and institutions (Sood and Singh, 2012). However, the education quality has suffered due to a shortage of faculty in the traditional courses of the universities and institutions (Sood and Singh, 2012; Singh et al., 2014). Sadly, this has also been evidently true even in the case of the medical education in our country (Chacko, 2013). This has diluted the standard of medical education in our country (Sood and Singh, 2012). The curriculum followed in medical schools is conservative, with gap in recent information (Dharmashaktu and Pangtey, 2016). Moreover, the number of seats for specialized studies in medical education is limited and comes at a higher price, which is a deterrent for students interested in these courses through traditional format (ILO, 2014), which leads a large number of graduate doctors and less number of specialists (Bajpai, 2014). Therefore, very often the Indian education standards do not meet the required skill requirements for the job in healthcare (Sood and Singh, 2012). This causes the students to force spend their resources on attaining higher degrees. Many professional posts are left vacant to the extent of about 80% due to the lack of proper education and training (Rao et al., 2012; ILO, 2014).

The coping solution for improving this drastic situation in the Indian healthcare scenario is through taking up training or by providing relevant courses (as a self-directed individual choice or from the organization) to up skill the healthcare professionals and management staffs/employees as per the requirement of the job (Dhanani et al., 2016, Srinivasan and Chandwani, 2016). One of the ways through which this can be done is in the form Massive Open Online Courses (MOOC) (Billing, 2014, Dharmashaktu and Pangtey, 2014, Gupta and Jain, 2014). The MOOC have been reported to satisfy the need of continued medical education and professional growth in individuals (Liyanagunawardena and Williams, 2014; Dhanani et al., 2016). This will increase recruitment and reduce attritions. Moreover, MOOC also conditions Indian students to get a competitive edge over others in the international market (Devgun, 2013).

# MASSIVE OPEN ONLINE COURSES (MOOC):

The progression of internet has opened the doors for enhancing the scope of 'world class' education and provided transformation in a healthy manner in the form of Massive Open Online Courses (MOOC) (Billing, 2014; Sachdeva et al. 2015; Nagasampige and Nagasampige, 2017). These can be considered as a new age learning pedagogical platform developed on the base of technological innovations in the field of information and communications (Liyanagunawardena and Williams, 2014). It has emerged as a successful mLearning paradigm not only for students, but also for professionals as well (Ward et al., 2011; Sachdeva et al. 2015). Thus, the fundamental aspect of MOOC includes providing equal opportunities of high quality of education to each interested individual across the world, devoid of any geographic, economic and demographic restrictions (Rajabi and Virkus, 2013). The gigantic number of users makes it on a 'massive' scale, while the 'open' part is the extension of the 'open education movement' with unlimited involvement of the learner (Rajabi and Virkus, 2013; Nagasampige and Nagasampige, 2017). Thus, knowledge dissipation happens here at the 'click of a button' in an easier, faster and cheaper manner compared to the traditional courses (Billing, 2014; Shah et al., 2015; Sachdeva et al., 2015). The major chunk of courses involves the field of engineering, followed by physical, chemical and biological sciences, followed by commerce and management, followed by arts, design and architecture and language and literature (Sachdeva et al., 2015).

# History of MOOC:

The first official online course was created by David Wiley (2007) (Sarkar and Bharadwaj, 2015). In 2008, Stephen Downes and George Siemens introduced the theory of MOOC while building a course format called Connectivism and Connective Knowledge course (CCK08) for the learners of University of Manitoba in Canada (Rajabi and Virkus, 2013; Liyanagunawardena and Williams, 2014; Sarkar and Bharadwaj, 2015). Dave Cormier and Bryan Alexander in 2008 coined the term MOOC (Sharma and Rani, 2015). The primary spread of MOOC occurred in the US first followed by Europe. The first successful MOOC called the Artificial intelligence course, was offered by Stanford University in 2011. This was followed by the formation of Udacity and EdX in 2012. EdX was established in collaboration of Harvard University and Massachusetts Institute of Technology (MIT). In Europe, Openup Ed and Future Learn are two growing forums for MOOC.

# **Benefits of MOOC:**

MOOC provides online courses in education, corporate, healthcare, management and many other sectors (Sachdeva et al., 2015). The primary beneficiaries of MOOC include students, professionals, educators, planners, administrators, educational vendors, technologically interested learners, organizations, general public and even governments (Rajabi and Virkus, 2013; Liyanagunawardena and Williams, 2014; Sharma and Rani, 2015). In the field of medical education, the doctors, field staff and overall patients benefit (Gupta and Jain, 2014).

#### Advantages to the participants:

MOOC comes with multiple advantages, the primary one being the independence of location, devices and time of learning (Belleflamme and Jacqmin, 2016). Thus, in recent times, mobiles are considered simplest devices to access information with highest penetration among various personal electronic devices typically used for educative purposes such as desktop, laptop, mobile phones or tablets (Ward et al., 2011; Yadav and Deepika, 2017). The quality of online courses was far superior than the offline ones (Sachdeva et al., 2015). The scope of MOOC is so wide that it has a potential of covering every possible subject (Rajabi and Virkus, 2013). The increase in medical knowledge was observed in participants undergoing the course on spinal cord injury (Harvey et al., 2017). Moreover, (Sarkar and Bharadwaj, 2015) in their paper on adaptation of MOOC in medical education pointed that the courses can be reused; therefore, the recurrent exertion and repetition of work can reduce work exertion and expenditure associated.

#### Advantages obtained by organizations supporting MOOC:

Apart from the learners, MOOC holds many significant advantages towards the educational institutions imparting MOOC as these bring additional attention towards the institution forming a sort of campaign for the institution. Moreover, they also play a critical role in the expansion of the popularity, marketing, branding and advertising, thereby facilitating in direct income generation for the institution in question (Rajabi and Virkus, 2013). For the organizations, MOOC forms a direct access point to student repository, which is the future workforce (Belleflamme and Jacqmin, 2016).

#### Importance of MOOC for medical education:

MOOC have been reported to be an encouraging channel for delivering medical education (Liyanagunawardena and Williams, 2014; Sarkar and Bharadwaj, 2015; Robinson, 2018), but not as widespread as other subjects (Hoy et al., 2014). Multiple courses covering clinical and health sciences have been introduced recently in various MOOC platforms (Dharmshaktu and Pangtey, 2016). These courses have been found to be useful to postgraduate medical students (Hoy et al., 2014; Subhi et al., 2014). Liyanagunawardena and Williams (2014) presented a comprehensive review on MOOC related to health and medical science. Some of the successful examples where MOOC has been used to train health professionals to develop health care services that operate at the patient's home includes Portea, which provides successful medical services in India (Goyal, 2018) and also been observed in Mexico during a cholera outbreak (Magaña-Valladares et al., 2018). MOOC like guidance was adopted for training health care workers. Positive results were observed when training was provided to health workers in Haryana, India used mobile learning for taking care of the newborn (Yadav and Deepika, 2017). MOOC was also reported to be helpful to physiotherapists across the world (Harvey et al, 2017).

#### Awareness on MOOC:

Even though, the study by Robinson (2018) showed that medical students from 161 varied countries joined the course, however, almost half of the students belonged to the USA. Therefore, it can be concluded that MOCC awareness was spread across the world, but the usage is skewed towards USA as they are pioneers in this field. MOOC awareness in India was explored by Nagasampige and Nagasampige (2017) and observed that there is partial awareness in learners belonging to premium institutes of the country. There was a huge variation in the awareness level of population in Tier 1 and Tier 2 Indian cities towards MOOC. Only 18% of the faculty members of a medical college in Gujarat were aware about MOOC (Dhanani et al., 2016), indicating low awareness of MOOC in India in comparison to developed countries.

#### **Tenets of MOOC:**

Typically, a MOOC comprises of a set of educational material hosted on an internet site, accessible to the learners through their devices (Billing, 2014). Moreover, the choice of forum (blogs, Facebook, Twitter or any other) for knowledge dissipation is dependent upon the user's convenience (Rajabi and Virkus, 2013). The main

portals providing MOOC include Coursera, EdX, Udemy, Khan Academy and Udacity, which work independently or collaborate with other educational institutions (Sachdeva et al., 2015; Nagasampige and Nagasampige, 2017; Egloffstein and Ifenthaler, 2017). Sharma and Rani (2015) illustrated the various MOOC platforms and demarcated the investors, donors, professors, alumni, fellows and board members. Bogdan et al. (2017) presents the list of MOOC platforms offered by various companies such as Microsoft, Google, IEEE, The World Bank, etc. While Coursera has more than 750 courses catering to millions of learners across the world, Udacity has only 38 courses (Sachdeva et al., 2015). Some of the Indian universities have tied up with various MOOC platforms (Sharma and Rani, 2015). The first Indian MOOC was launched in 2013 on a platform named Sakai covering course on mobiles. Thereafter, in 2017, the Indian government launched Swayam, a MOOC platform in collaboration with the premium institutes and universities of the country that plans to provide thousands of courses (Goyal, 2018).

# **Types of MOOC:**

Based on learning pedagogical theories, MOOC are divided into two divergent types, called as connectivist MOOC (cMOOC) and extended MOOC (xMOOC) (Rajabi and Virkus, 2013, Gupta and Jain, 2014, Egloffstein and Ifenthaler, 2017). The cMOOC mostly depends upon networking coupled with connectivism using the concepts of openness, originality, autonomy and concerted network learning, wherein there is a lot of interaction between the learners through free channels and includes both students and faculty as learners, whereas, xMOOC involves 'information transmission' of knowledge in a structured modeled way with self-evaluation exercises and cross reviewing from peers in a faculty centric conditions. Examples of cMOOC and xMOOC include, Lernata and Coursera respectively.

Sharma and Rani (2015) described two types of MOOC models, namely, general and blended. The blended type differs from the general type by providing a flipped classroom experience. This is being provided in some of the premium institutes of India.

# **MOOC users:**

Ward et al. (2011) pointed that the participants of the MOOC program included diversity in age and equality in gender. The participants were segregated into three main categories, namely lurking (interested mostly in joining the course after browsing about the course), moderately active (engaged with the course through answering related questions) and memorably active (communicate most actively, complete the course and ensure certification). Petronzi and Hadi (2016) described four types of participants: active, passive, observer and drop in. Rajabi and Virkus (2013) observed that the users had a positive approach towards MOOC, however, these courses were expected to be of top quality with a well structured course line, teacher support and a creditable outlook in terms of job markets. Magaña-Valladares et al. (2018) reported that the participants were mostly women physicians with an average age of 36 years.

# **Drivers behind joining MOCC:**

The primary driver for joining MOCC was the enhancement of current or new knowledge for personal and professional reasons, economic gains, curiosity revolved around MOCC, for certification on odd subjects and for the sake of enjoyment and fun (Hew and Cheung, 2014, Nagasampige and Nagasampige, 2017). Rajabi and Virkus (2013) recognized that students believed that MOCC will give them an international exposure on the subject, while for the educators, these can provide ideas for alternate teaching methods. Sachdeva et al. (2015) pointed that the rationale of choosing any particular course depended on the course instructor, cost of the course, the course topic coverage, utility of the course and the quality of the class as evaluated through the demonstration class. Most of them agreed that they joined the course for improving their knowledge with the least botheration on certification. One of the significant feature of these courses involves the noncompliance to any strict timelines (Sachdeva et al., 2015). The type and duration of course influenced the learners, with more interest in practical online courses than theoretical online ones. The learners were more interested in studying subjects contrasting to subjects studied in regular course. Petronzi and Hadi (2016) suggested that besides knowledge enhancement and career growth, change in perceptions, additional refreshing of learning, personal causes and providing an idea about other countries and their educational level were some of the added reasons for joining MOOC in medical stream. However, the traditional offline courses were observed to be more engaging and resolved doubts faster compared to the online courses (Sachdeva et al., 2015). These barriers can be reason behind the increased level of dropouts in MOOC.

#### Status of MOOC use: Global:

The global reach of MOOC was observed to be high in the field of medicine (Robinson, 2018). Even though, higher rate of joining success might have been observed in other disciplines, however, the completion rates were as low as 5% (full completion) to 20% (first section of the course) was observed in 4<sup>th</sup> year medical students from USA. Similar results were observed by Goldberg et al. (2015) in an online course in dementia for students of divergent educational backgrounds. Harvey et al. (2017) reported that participants from more than 110 countries joined MOOC on spinal cord injury, with the maximum participation from India, Australia and USA. The completion decreased from 43% to 35% within 2 years. However, the completion rate was much higher in an emergency situation of cholera outbreak in Mexico. It was reported that more that 82% of the 40,000 total enrolled participants successfully completed the course, thereby proving that MOOC can be helpful in spreading knowledge to a huge population in minimal time (Magaña-Valladares et al., 2018).

# India:

India is emerging as one of the largest subscriber base of MOOC (Nagasampige and Nagasampige, 2017). Robinson (2018) reported usage of MOOC by Indian medical students restricted to 6% (although higher than UK, Canada, China and Germany). Similar to MOOC technology was used by health workers of Haryana to improve their management of newborn babies in collaboration with an expert guest with the help of low end mobile phones and cellular network (Yadav and Deepika, 2017). The number of Indian learners for MOOC on spinal cord injuries increased ten fold within two years.

# Implementation of MOOC in India's medical education:

A definitive approach in the implementation of MOOC in India has been described by Devgun (2013) and Gupta and Jain (2014). Gupta and Jain (2014) described that the first phase where the first step begins with demarcating the knowledge delivery organization, then forming an expert group and delineating the course and nominating a course in charge. This is then followed by the recording of video lectures, verification through a review group and finally put on the MOOC platform. The second phase was elaborated by Devgun (2013), which starts with the approval of MOOC from university, followed by student enrollment in the course, and then evaluation is done using strong assessment. After this, there is a tie up with the industry and provides appropriate job to the students. Shah et al. (2015) compared the sustainability parameters of India and USA and suggested that the success drivers of MOOC vary from country to country.

# Constraints of MOOC specific to India:

Some of the considerations that the learners keep in mind are the quality of the course. Failing to get that, demotivates the learners and leads to non completion of the course. Some of the barriers to conduct these courses at policy/implementation and technical levels and their successful completion are discussed below.

# **Policy level:**

Even though, MOOC have been found to bridge the knowledge gap, however, none of the MOOC received any credit status neither internationally or even nationally (Hoy et al., 2014). These have to be acknowledged by the Indian medical colleges (Gupta and Jain, 2014). They have been mostly acknowledged as a self-learning supplementary learning material (Petronazi and Hadi, 2016). There is no economic incentive for the developers, thereby making it difficult in quality maintenance and financial sustainability (Sarkar and Bharadwaj, 2015). Moreover, there can be a problem of copyright infringement.

# Implementation level:

The implementation barriers work at the level of diverse languages, unusual teaching methods, absence of any educational obligation as obtained from the educational institutes for traditional courses, no growth in socialization skills and dearth of teachers and their assistance (Rajas and Virkus, 2013). The major limitation of MOOC in medical education is the assessment of the course as medical science is more of a practical study (Sarkar and Bharadwaj, 2016). The accreditation and competence of these MOCC are also challenged as they are not screened for quality by the Medical Council of India. Moreover, it was also observed that the knowledge on MOCC was particularly low in case of medical teachers, even though computer literacy was quite high among them (Dhanani et al., 2016), thereby making its implementation difficult.

# **Technical level:**

Some of the limitations of MOOC are also linked to the restriction of usage of mobile as a device. The primary reasoning being small screen size, restricted device functionality, cost of the internet and difficulties in user interface (Ward et al., 2011). Along with this, infrastructure deficiencies, the understanding of the device, the digital divide, any copyright infringement issues can make matters complicated for a new user (Gupta and Jain, 2014).

# MOOC AS A TOOL FOR RECRUITMENT AND RETENTION:

The Indian health care industry has a high percentage of vacancies in their posts. Therefore, the main aim of the talent management in healthcare is to select the best professionals for the job and eventually to retain them. The absence of qualified professionals makes the job of the recruiter tougher. Investment in thorough training becomes risky and time consuming. Most of the students are overburdened by the traditional form of educational system. This gap can be bridged using corporate MOOC (Harvey et al., 2017). MOOC typically can help to improve the knowledge and competencies of the healthcare professionals (nurses/ technician/ doctors/ staff, etc.) by providing digital education, blogs, reality videos, slide presentation, lectures and training free of cost most of the time (Nagasampige and Nagasampige, 2017). This can also act as long standing knowledge repositories (Gupta and Jain, 2014). The corporate MOOC varies from the academic MOOC as it is reserved only for employees, operating within the organization and overcomes the social isolation, the disadvantage of academic MOOC by having an interactive, face to face sessions and provide customized study material relevant to the work front (Egloffstein and Ifthenlaer, 2017). Moreover, an increased reach of MOOC to various parts of India due to the advent of telecom technology makes the acceptance of MOOC easier among Indians students and professionals. Thus, in this case, medical learning becomes cost-effective. Targeting professionals and encouraging them to take MOOC to bridge the gap created due to the traditional educational courses and uplift the quality of information according to the latest knowledge will help them get recruited faster. This will lead to increased job acquirement of health care professionals and further retention in their jobs. From the HR point of view, corporate MOOC also acts as cost effective ways for catering to tailor made needs (Bogdan et al., 2017). Thus, MOOC can be used as an effective tool to hire and retain the employees of healthcare industry also.

# **RESEARCH GAP:**

There are many studies reporting the success for MOOC as a successful new age technological tool for high quality learning. However, there are very few studies describing the function of MOOC in medical stream (Robinson, 2018) or its potential as 'workplace learning' (Egloffstein and Ifenthaler, 2017). Moreover, all the studies have been done on students and hardly on professionals. Bogdan et al. (2017) has suggested the use of MOOC for recruitment, however, their study is restricted to the companies of IT field. To the best of our understanding, the concept of using MOOC as a job retention approach has not yet been explored in the area of healthcare industry, but seems to have a huge potential in the future.

# IMPLICATIONS AND DIRECTIONS FOR FUTURE STUDIES:

Our study contributes to the existing literature on healthcare by providing a practical idea for a faster and easier process of up scaling the quality of health care professionals in a cost effective manner and easy accessibility using MOOC. There is a need to understand this relationship in detail and explore the possibilities of variables that can impact job retention at an organizational level. This can also have a serious impact on the national level as well and help in bridging the existing massive human resources in health crisis. Systematic studies to understand the HR systems with the usage of MOOC are suggested, so that policy level changes can be suggested.

# CONCLUSIONS:

Corporate MOOC has already been accepted as a critical instrument in organizations, while MOOCs have been considered to be the best, easiest and economical form of knowledge distribution among enthusiasts. Our study projects the integration of medical education to corporate MOOC for bringing India out of the health care worker crisis. To the best of our knowledge, this review forms the basis of development of MOOC in the medical field.

# **REFERENCES:**

- Bajpai, V. (2014). The Challenges Confronting Public Hospitals in India, Their Origins, and Possible Solutions, *Advances in Public Health*, 1–27.
- Bajpai, V. (2014). The Challenges Confronting Public Hospitals in India, their Origins, and Possible Solutions, *Advances in Public Health*, 1–27. https://doi.org/10.1155/2014/898502
- Belleflamme, P., & Jacqmin, J. (2016). An economic appraisal of MOOC platforms: Business models and impacts on higher education, *CESifo Economic Studies*, 62(1), 148–169.
- Billings, D. M. (2014). Understanding Massively open online courses, *The Journal of Continuing Education in Nursing*, 45(2), 58-59.
- Bogdan, R., Holotescu, C., Andone, D. & Grosseck, G. (2017). How MOOCs are being used for corporate training? *The International Scientific Conference ELearning and Software for Education*, 2(April).
- Chacko, T. (2013). Improving quality of medical education in India: The need to value and recognize academic scholarship, *Journal of Pharmacology and Pharmacotherapeutics*, 4(3), 171-173.
- Devgun, P. (2013). Prospects for Success of MOOC in Higher Education in India, *International Journal of Information and Computational Technology*, 3(7), 641–646.
- deWaard, I., Koutropoulos, A., Keskin, N., Abajian, S. C., Hogue, R., Rodriguez, C. O., & Gallagher, M. S. (2011, October). Exploring the MOOC format as a pedagogical approach for mLearning, *In Proceedings of 10th World Conference on Mobile and Contextual Learning* (pp. 138-145).
- Dhanani, J., Chavda, N., Patel, N., & Tandel, K. (2016). Awareness and utilization of massive open online course (MOOC) and video series as continuous learning tools for faculties, *International Journal of Medical Science and Public Health*, 5(8), 1540-1543.
- Dharmshaktu, G., & Pangtey, T. (2016). Strengthening clinical research education in India: The massive open online course, *Digital Medicine*, 2(3), 127–128.
- Egloffstein, M., & Ifenthaler, D. (2017). Employee Perspectives on MOOCs for Workplace Learning, *TechTrends*, 61(1), 65–70.
- Goldberg, L. R., Bell, E., King, C., O'Mara, C., McInerney, F., Robinson, A., & Vickers, J. (2015). Relationship between participants' level of education and engagement in their completion of the Understanding Dementia Massive Open Online Course Approaches to teaching and learning, *BMC Medical Education*, 15(1), 1–7.
- Goldberg, L. R., Bell, E., King, C., O'Mara, C., McInerney, F., Robinson, A., & Vickers, J. (2015). Relationship between participants' level of education and engagement in their completion of the Understanding Dementia Massive Open Online Course Approaches to teaching and learning, *BMC Medical Education*, 15(1), 1–7.
- Goyal, M. (2018, September, 25). Massive open online courses have got a second wind. Economic Times. [https://economictimes.indiatimes.com/industry/services/education/massive-open-online-courses-have-got-a-second-wind/articleshow/65914966.cms]
- Gupta, S., & Jain, D. K. (2014). MOOCs for medical education: An Indian perspective, Proceedings of the 2014 IEEE International Conference on MOOCs, Innovation and Technology in Education, IEEE MITE 2014, (March), 232–236.
- Harvey, L. A., Glinsky, J. V, Muldoon, S., & Chhabra, H. S. (2017). Massive open online courses for educating physiotherapists about spinal cord injuries: A descriptive study, *Spinal Cord Series and Cases*, 3(December 2016), 17005.
- Hew, K. F., & Cheung, W. S. (2014). Students' and instructors' use of massive open online courses (MOOCs): Motivations and challenges, *Educational Research Review*, 12: 45-58.
- Hoy, M. B. (2014). MOOCs 101: An Introduction to Massive Open Online Courses, *Medical Reference* Services Quarterly, 33(1), 85–91.
- IBEF (2018). Healthcare [ https://www.ibef.org/download/Healthcare-Sep-2018.pdf].
- ILO (International Labour Organization). (2014). Employer's viewpoint on migration, retention and return of health-care workers: An Indian perspective. ILO Asia – Pacific Working paper series. [https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-manila/documents/publication/ wcms\_316222.pdf].
- Liyanagunawardena, T. R., & Williams, S. A. (2014). Massive Open Online Courses on Health and Medicine: Review, *Journal of Medical Internet Research*, *16*(8), 1–13.

- Magaña-Valladares, L., Rosas-Magallanes, C., Montoya-Rodríguez, A., Calvillo-Jacobo, G., Alpuche-Arande, C. M., & García-Saisó, S. (2018). A MOOC as an immediate strategy to train health personnel in the cholera outbreak in Mexico, *BMC Medical Education*, 18(1), 1–7.
- Mbemba, G. I. C., Gagnon, M. P., & Hamelin-Brabant, L. (2016). Factors influencing recruitment and retention of healthcare workers in rural and remote areas in developed and developing countries: An overview, *Journal of Public Health in Africa*, 7(2), 61–66.
- Nagasampige, M., & Nagasampige, K. (2017). A Qualitative Study on Usage and Effectiveness of Massive Open Online Courses (Moocs) in Indian University education system, *European Journal of Open Education and E-Learning Studies*, 2(1), 65-79.
- Petronzi, D., & Hadi, M. (2016). Exploring the factors associated with MOOC engagement, retention and the wider benefits for learners, *European Journal of Open, Distance and E-learning*, 19(2), 112-129.
- Rajabi, H., & Virkus, S. (2013). The Potential and Readiness of Tallinn University to Establish Massive Open Online Courses (MOOCs), *Qualitative and Quantitative Methods in Libraries (QQML)*, 4, 431–439.
- Rajbangshi, P. R., Nambiar, D., Choudhury, N., & Rao, K. D. (2017). Rural recruitment and retention of health workers across cadres and types of contract in north-east India: A qualitative study, *WHO South-East Asia Journal of Public Health*, 6(2), 51–59.
- Rao, K. D., Bhatnagar, A., & Berman, P. (2012). So many, yet few: Human resources for health in India, *Human Resources for Health*, 10, 1–9.
- Robinson, R. (2018). Insights from a massive open online course (MOOC) for medical education (2014-2018) (No. e26879v1), *PeerJ Preprints*.
- Sachdeva, A., Singh, P., & Sharma, A. (2015). MOOCs: A comprehensive study to highlight its strengths and weaknesses, *MOOCs Innovation and Technology in Education (MITE)*, 2015 IEEE 3rd International Conference, 365–370.
- Sarkar, S., & Bharadwaj, B. (2015). Adapting massive open online courses for medical education, *International Journal of Advanced Medical and Health Research*, 2(1), 68-71.
- Shah, M. ., Wagner, C., & Oztok, M. (2015). Drivers of MOOC Sustainability: A Comparison of the US and India. The Twelfth International Conference on eLearning for Knowledge-Based Society, 11-12 December 2015, Thailand.
- Sharma, A., & Rani, R. (2015). A 3-level model for implementing MOOC in India, Proceedings of the 2014 IEEE International Conference on MOOCs, Innovation and Technology in Education, IEEE MITE 2014, (December 2013), 132–137.
- Singh, P. K., Gandhi, I., & Nand, P., (2014). MOOCs: The paradigm-shift in Indian education, in MOOC, Innovation and Technology in Education (MITE), IEEE International Conference on (pp. 317- 320). IEEE.
- Sinha, P., & Sigamani, P. (2016). Key challenges of human resources for health in India, *Global Journal of Medicine and Public Health*, 5(4), 2277–9604.
- Sood, R., & Singh, T. (2012). Assessment in medical education: Evolving perspectives and contemporary trends, *National Medical Journal of India*, 25(6), 357–364.
- Srinivasan, V., & Chandwani, R. (2014). HRM innovations in rapid growth contexts: The healthcare sector in India, *International Journal of Human Resource Management*, 25(10), 1505–1525.
- Subhi, Y., Andresen, K., Bojsen, S. R., Nilsson, P. M., & Konge, L. (2014). Massive open online courses are relevant for postgraduate medical training, *Danish Medical Journal*, *61*(10), A4923.
- The World Bank (2018) Government expenditure on education, [https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS]
- World Health Organization. (2010). Increasing access to health workers in remote and rural areas through improved retention, *Global Policy Recommendations*, 23(February), 3–69.
- Yadav, D., & Deepika. (2017). Low-Cost Mobile Learning Solutions for Community Health Workers, Proceedings of the 26th International Conference on World Wide Web Companion - WWW '17 Companion, 729–734.