

# TECHNO-ENTREPRENEURISM IN HR-TECH SPACE - GLOBAL PERSPECTIVE AND INDIAN SCENE

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**Abstract:** The world is moving towards a golden era of HR technology solutions that are taking human resource management to a wholly new level. Massive improvisation in HR technology and modernised workforce solutions is required to be carried out to achieve maximum productivity of employees. This emerging need of a high impact digital HR have forced the organizations and HR leaders to turn to investing in HR Technologies to improve HR's experience in business. Over the years, HRM in India has concentrated on human resource mobilisation and talent management to a greater extent, screening the shift in gaining business profitability through new and innovative HR interventions. Such a scenario has led to tremendous rise of new HR Tech Start-Ups which grows with the role of providing HR solutions and also supporting organizations in meeting strategic objectives. These HR Tech Start-Ups have witnessed considerable evolution with increased focus on technological interventions for staffing, recruitment, and other HR-shared services. This has finally led to some mergers and acquisitions with big HR Tech companies in India. Thus, the entry of these new HR tech Start Ups have contributed to organizations achieving lower turnaround, higher employee engagement and more productivity, benefiting better business outcomes. HR Tech is a highly competitive and fragmented industry that is poised for enormous growth in the coming years as companies increase their investment in HR technology infrastructure.

This paper aims to explore techno-entrepreneurism in the HR Tech space, delving deep into the global perspective and trends in Asia as well as especially in India. The authors highlight on the prospects of techno-entrepreneurism in Indian entrepreneurial diaspora highlighting the major challenges of such techno-entrepreneurism in India.

*Index terms: HR tech, HR solutions, human resource mobilisation, talent management, techno-entrepreneurism*

## I. Introduction:

Developing an innovative business idea and thereby, implementing it, along with risk taking basically defines the concept of entrepreneurship. Translating the idea into business reality is subject to the influence of number of internal and external environmental factors revolving around the business including the professional and personal characteristics of the entrepreneur<sup>1</sup> [1]. The technological environment has played the central supportive stage in 'innovation' thereby, building a competitive environment which ultimately, promotes economic growth.

Technological entrepreneurship is defined as the ways in which entrepreneurs draw on resources and structures to exploit the emerging technology opportunities (Liu et al.,2005). Bailetti T. (2012) 'Technological entrepreneurship is an investment in a project that assembles and deploys specialized individuals and heterogenous assets that are intricately related to the advances in scientific and technological knowledge for the purpose of creating and capturing value for a firm'. Techno- entrepreneurship can be distinguished from other entrepreneurship types (e.g., social entrepreneurship, small business management, and self-employment) is the collaborative experimentation and production of new products, assets, and their attributes, which are intricately related to advances in scientific and technological knowledge and the firm's asset ownership rights[2].Techno - entrepreneurship appeals to those entrepreneurs of small and large firms who urges to bring in advanced technology to create, deliver and capture value for its stakeholders.

Human capital forms the most significant factor for a company to achieve the competitive advantage. A study of new businesses by Bamford, Dean and McDougall (1996) identified that acquiring competent human resources was critical for a venture's success or failure because HRM practises influence and may determine if a firm does well in developing its products/services it offers[3]. Therefore, the development of HRM is crucial for the firm to grow in this cut throat competition. Therefore, today, HR is not treated as a single function but a collection of highly specialized capabilities with distinct objectives and needs. There has been an ever-increasing pressure on human resource management to not only support strategic goals but also to focus on value adding activities. Organizations have realised the growing importance of technologies in leveraging the HRM functions, for intensifying competition, managing global workforce and to improve HR service delivery with cost savings[4].

Traditional HRM was characterized by too much paper work and a long administrative procedure, which made the whole process slow and with lots of errors. The efficiency of HRM refers to the ability of an organization to effectuate its activities faster and at a lower cost. To meet the demand of today's need, there is an increasing pressure on HRM to support strategic objectives and to focus on value-adding activities, which consequently leads to the change in the job content and the expectations on Human

Resource (HR) professionals[5]. The integration of technology with the Human Resource Management have led to improvement of the performance of the employees and greater involvement of the employees in organizational strategic decision making.

With the digital age, there has been a tremendous need for more HR techs so as to provide enhanced employee experience with increased employee engagement. Techno-entrepreneurship in the HR tech space is basically defined as setting up of a new technology venture or ways in which entrepreneurs draw on resources and structures to develop technology opportunities to make the HR services delivery faster with an enriched level of experience. Organizations need to impart those advanced HR tools to simplify their processes and also support strategic decision-making. Therefore, technological entrepreneurship is being seen as essential for firms in HR tech space, to achieve sustained industrial development, and which ultimately leads to economic growth of the country.

## II. Objectives:

1. To understand techno-entrepreneurism and its role in the human resource management practices in present day.
2. To make a comparative of the growth of HR tech start ups in India with respect to the Global world.
3. To understand the status-quo of the HR tech start Ups in India, their potentials for growth and the challenges faced by them.

## III. Methodology:

The study follows a purely descriptive research while understanding the role of techno-entrepreneurship and its role in human resource management in today's practise. The study follows the exploratory research design to understand the emergence of techno-entrepreneurism in HR tech space in global scenario and its comparison to HR tech space in India. Ample size of literature was reviewed to arrive to conclusion and to describe the tech-entrepreneurship concerned with the human resource management. A majority of the literature was drawn from the websites and critically objectively examined, which is done normally in desk research method; so in simple parlance, this research followed the desk research method.

## IV. Techno – Entrepreneurship

Techno – Entrepreneurship, also referred as Technology-entrepreneurship, is defined as the setting up of new enterprises by individuals or corporates to exploit the technology innovation. It also means the commercialisation of the emerging innovations in technology. Technology-entrepreneurship is defined as style of business leadership that involve high potential, technology-intensive- commercial opportunities, gathering resources such as talent and capital, and managing rapid growth and significant risk using principled decision making[6]. It is also defined as the process by which entrepreneurs assemble organizational and technical systems, and the strategies by entrepreneurial firms to pursue opportunities[7]. The pace of technology innovation is growing at a very fast rate in all sectors of economy, and productivity will grow if there is increased commercialisation of latest technology innovations.

There are certain attributes that characterizes technology entrepreneurship. These attributes are elaborated below[8]:

- (a) **High Potential Opportunity:** A new technology-based venture has a very high potential opportunity if it is capable of creating new value for its customers, if it has a significant level of technology understanding which is difficult to replicate and is protected (patent), high level of scalability, creating a barrier to entry for new competent.
- (b) **Technology-intensive Opportunity:** Technological entrepreneurship is described as a technology-intensive opportunity involving a process of problem solving, raising and safeguarding the quality of life, requiring technical skills and applications, identifying potential markets, enhancement in quality of products in direction to progress competitiveness of the firm with the expectation of saving in process cost. Techno-enterprises are expected to guarantee suppliers of materials, long term sustainability of firms and increased output.
- (c) **Unique Technology capable of driving new business:** Aside from having more market share through aesthetic changes, price reduction, better performance and so on, techno-entrepreneurship has the characteristic of being able to advance new technologies that can institutionalise new ventures that adequately meet consumer's need.
- (d) **High Risk of Failure:** Developing new products is especially a risky business endeavour, because a technically feasible innovation might not be economically profitable, and the products may not survive the commercialization process. Literature reported that success rate for new innovations ranged from 1% to 85%, while less than 2% of potential technology-based venture ideas end up being registered as patents or intellectual property[9].
- (e) **Longer time to market:** This refers to the uncertainty surrounding the commercial success of innovation because it is difficult to predict the time lag between launching the product and growth of sales.
- (f) **Demand of Infrastructure, Facilities and Resources:** Techno-entrepreneurs face various challenges that can be attributable to inadequate resources, expensive patents and unavailability of equity.

## V. HR Tech- An emerging field of HRM

With the increasing technological disruption, the digital technologies have changed the gamut of functional areas of management. Today, digital technologies have revolutionised the traditional HRM to give better user experience and improved organizational performance. HRM renamed as E-HRM, involves planning, implementation and application of information technology for both networking or supporting at least two individual or collective actors in their shared performing of HR activities[10]. This new HR digitalization will not only enable HR professionals to focus on evolving its role into a more integral part of business but also assist the organization in decision making; HR leveraging technology to manage a firm's human capital. Technological advancements such as Artificial intelligence, Machine learning and Cloud HR technology are taking the centre stage of human capital management which is in conjugation to HR tech today[11].

Technology is today a necessity for an organization to grow and remain competent in this cut throat competitive business environment. HR Technology is a crucial tool for competitiveness as organization develop impactful work structure, make objective business decisions, develop impactful work structure, improve employee productivity, and add great deal of value to business and thereby, align workforce to organization goals. HR Tech is essential to improve the quality of workforce, resulting in more employee engagement, better functionality and improved user experience with better service delivery. Thus, investment in HR technologies is very much crucial for an organization to improve the HR's impact in business and thereby, lead to increased organizational effectiveness.

Information Technology is crucial to enable organizations to deliver state of the art HR services, and with reduced costs, that have enabled companies to purchase or rather opt for HR technologies[12]. The current generation of HR Tech automates routine administrative and compliance functions traditionally performed by corporate HR departments. Thus, we see the emergence of small HR tech Start Ups which build techno-HR solutions to make the HR functions simpler with improved HR performance. Solutions can be in the form of software-solutions, outsourcing or in the form of cloud computing in all the functional areas of HR right from planning, recruitment, talent management, performance management, training and development etc. We see that big companies are turning to outsource or software-built services for improved HR solutions, where these HR-tech start ups have paved the way to fill these gaps and adapt to these HR needs.

Many HR Tech-Start Ups have gained considerable momentum with the increased investments in the HR tech space. HR tech start ups have driven organizations to be more innovative -oriented and less formal personnel management. They have been successful in proving the latest HRM practises as one of the core competencies for rapidly growing firms. These HR-tech start ups have also been successful in branding of HR- technologies which have resulted from adoption of innovative practises in HRM and managing business sustainability; very much vital for corporate HRM[13].

#### VI. HRM based Tech Space – The Global View

The global view on technology integration in HR tech spaces concentrates on the issues of productivity, wellness, flexible workforce, performance review, talent management, user experience, innovation, digitalization, automation, HR cloud, artificial intelligence, data analytics and HR technology. Multinational companies in European countries and also in USA have shifted their focus of HR technology from automation to building HR solutions, where they also have elevated to high impact digital HR by integrating HR technology with Big Data to contribute to people management[14]. With the increasing digitalization, there has also been an emergence of large number of freelance or gig workers which have led to the demand of flexible workforce solutions, with flexible workspace and work timings. Big companies are also investing in skill upgradation of their workforce to build in a digital workforce – such that the humans have the requisite skills to work alongside machines. This has created a lot of opportunities for new techno-entrepreneurial firms to discover the field of talent management and performance review. Techno-entrepreneurial firms need to develop the capabilities of the current workforce and enable big organizations to cope with the 'disruption' and to sustain in this competitive market by building flexible HR solutions to make the HR processes smoother and simpler.

With the dawn of technology, HR companies today have created a wide array of products, with the infusion of both software and hardware to make the complete HR processes a smooth and affordable. There is a tool for everything starting from recruitment, talent management, employee self-service, gauging engagement and productivity and even enhancing corporate health and wellness.

#### VII. HRM based Tech Space (in India)

India has been emerging as the hub of Start Up activities. In start up space, much have been talked on tech start-ups particularly consumer, e-commerce, health care etc. However, a new story to this chapter of start-up mission in India is the HR-tech. Over the years, the leading venture capitalists have invested over INR 1000cr in the promising HR start-up segment in India, which is very commendable. Though the HR tech start up in India is nascent in terms of technological solutions as compared to the world, however, the HR tech start ups have been successful in tapping the opportunities of providing improved HR solutions to support hiring, managing, engaging, training and supporting employees. They also provide solutions for candidate career enhancement. HR tech companies in India have been successfully providing outsourcing services for various HR functions like Recruiting, Talent Management, Workforce management, Payroll and more.

Table 1: Scope of HR Tech space in India

HR Tech Solutions	Description
HRMS	Integrated suite of technologies that aid in HR management
Sourcing	Tools or portals that aid in human resource management
Corporate Training Management	Platforms which help their enterprises train their employees
Candidate assistance	Tools and software solutions helping job seeking candidates in their job application and recruitment process.

Source: Tracxn HR Tech India Report – September 2016

From the above table, it is found that the techno-entrepreneurs in the HR Tech space in India have been successful in providing platforms for providing extensive solutions in the field of HRMS (human resource management systems) particularly in benefit administration e.g., WorkAdvantage, performance management & employee engagement e.g., Kwench and payroll management e.g., Niyu Solutions. Sourcing of human resource has been the biggest scope of providing workforce solutions particularly

freelancing e.g., Flexing, Babajob.com, Youth4work and providing referrals or job boards e.g., Hiree, Sheroes etc. and maintaining candidate database.

Table-2: Leading HR tech Start Ups in India

HR - Tech Scope	Cumulative Investment	HR Functionalities	Leading HR Tech Start Up	Origin
HRMS (Human-Resource Management Systems)	\$36 million	Benefit Administration	WorkAdvantage (2014)	Gurgaon
			Zoojoo.BE (2012)	Bangalore
		Payroll Management	Niyo Solutions (2015)	Bangalore
		Workforce analytics	Sapience (2009)	Bangalore
		Performance management	Kwench (2008)	Mumbai
		Applicant Tracking System	Mettl (2010)	Gurgaon
Sourcing	\$58 million	Job board	Hiree (2014)	Bangalore
		Blue-Collar	Babajob (2007)	Bangalore
		Challenge based hiring	Hacker Rank (2009)	Bangalore
		Refferal	Round One (2011)	Delhi
		Freelancing	Flexing (2012)	Delhi
Corporate Training	\$15.5 million	Content Management	Wag Mobile (2011)	Indore
		Learning Management System	Capabiliti (2014)	Noida
		Gamification	MindTickle (2011)	Pune
Candidate Assistance	\$0.5 million	Career Guidance	Vmock (2009)	Gurgaon
		Resume Assistance	SkillMap (2016)	Gurgaon
		Interview Preparation	ScaleUpp (2013)	Chennai

Source: Tracxn HR Tech India Report – September 2016

e.g., Belong. Corporate training management has been a new solution for the upliftment of the employee performance particularly in Content management e.g., Wagmobile and Learning Management Systems (LMS) e.g., Capabiliti. Candidate assistance is another scope for providing HR solutions particularly in career guidance and learning e.g., Vmock, resume assistance e.g., SkillMap and interview preparation e.g., ScaleUpp.

From table 2, we find that HR tech entrepreneurship in India have dived into the prospects of HRMS (human resource management systems), Sourcing, Corporate Training management and Candidate assistance. The Sourcing business is the leading one having the highest investment, followed by HRMS in the HR tech space in India. The sourcing function is being dominated by the existing big multinational organizations like TCS, Wipro and now, we see the emergence of new techno-entrepreneurs particularly in the roles of job board provider, sourcing blue collar jobs and also carrying out challenge-based hiring. Corporate Training Management is clearly growing in its way, becoming vital to develop an improved workforce. Corporate training management have diversified its role into content management training solutions, advanced learning management systems and gamifications. Candidate assistance is another HR tech scope where new techno-entrepreneurs have emerged to provide platform for career guidance, assistance in resume building and also assist in interview preparation.

### VIII. Investment Opportunities

HR tech space has now become a lucrative space for investment, as with the increasing technological advancements new techno-entrepreneurs have sprang up to fill the gaps of HR tech needs in big organizations by providing improved HR solutions with reduced costs. The HR Tech industry have risen their investment bar to \$65 million in a year during 2016 from \$1.6 million in 2011. With the increasing number of HR Tech-start Ups in India, it is also seen that there is tremendous growth in the number of funding organizations for HR tech start-ups. There are funding organizations available at different stages of entry into the HR tech market. There are a large number of Angel funding available namely, Blume Ventures, Mumbai Angels, 500 Startups, Accel Partners, GSF India, IDG Ventures India, Jaarvis Accelerator, Prime Venture Partners, TA Ventures, TracxnLabs

### IX. Conclusion

The picture of the human resource technology applications and its status in business world, and the present buzzes on human resource technology does not limit us to prognosticate over the future days to come. Obviously, HR technology has the tremendous opportunity for novel tech venturing. The constraint may be the prolific mind, required creativity, level of innovation ability, and ideas on the human aspect of the work and the technology. HR-tech entrepreneurship and venturing will be promising area though the present trend of technology attempts to substitute the human resources, but for facilitating and making human happiness at work, technology is not ways, to fill up the hole of cavity we need tech-venture for human cause, productivity and efficiency of firms. Now, companies are to equip and to match up with the fierce competition and the rapid innovations; we should comprehend on technology life cycles which are presumably very shorter. As the technology life cycle is shorter enough, the continuous productions of the new and relevant technology matching to the human resources will undoubtedly be shorter. For ensuring the continuity of a business and for adjusting with this continuous requirement of the technology innovations, the technocrats, the business and businessmen must have to come together. It is the signpost on the future of techno-entrepreneurism

in the amphitheatre of human resource technology is really apprehensible. In the fourth industrial revolution, though the people are cryptic enough about the future of the technology saturation resulting dilemma of data saturation, this may not end up the requirement of human resource and related human resource technology. Thus, we confirm, there is a long future of human resource technology and the human resource tech venturing, and human resource entrepreneurship. The first decade of the 21<sup>st</sup> century is the beginning of human resource technology and HR-tech entrepreneurship.

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