

Leveraging HR Analytics to Study Employee Churn and Retention of Special Education Professionals - A Review of Literature

¹Nirmala Mungamuru, ²Prof (Dr.) Pukhraj Dadhich

¹Research Scholar, ²HOD & Research Supervisor, Dept. of Commerce and Management, Bhagwant University, Ajmer, Rajasthan, India.

¹nirmala.mungamuru@gmail.com, ²pukhrajdadhich@gmail.com

ABSTRACT - Over the last few decades, as the data is exponentially growing big, the major challenge being faced by HR professionals is producing precise statistics of employee linked issues and make fact based strategic HRM decisions. Putting HR analytics into practice can offer a possible solution to ensure and develop the data driven HRM. Predicting employee churn, attrition or retention is one of the key areas of HR analytics. To accurately determine who is leaving and what is the underlying reason are the key issues of HR Workforce planning. Special education professional's play a substantial role in empowering the gifted students who are differently abled. A special teacher may start their profession with an intention of enabling differently abled students to become productive members of society, but unfortunately they face quite a lot of challenges that make their task exceptionally difficult and attrition rates are spiking up. The shortage of competent educators intimidates the value of educating specially abled learners. Building qualified workforce and creating work environment that sustain special educators' involvement and commitment is the question of interest. The present study aims to review the underneath literature of leveraging HR Analytics to analyse the employee turnover and retention with special reference to special education professionals.

Keywords: HR analytics, Employee churn, Retention, Special education, Differently abled, Workforce planning.

I. BACKGROUND OF THE PROPOSED RESEARCH

Rowley and Jackson (2011) allude to Human Resource Management [HRM] as: Overseeing and working with individuals, creating them to such an extent that the associations they work in can embrace adequately to changes in their nearby and worldwide business conditions. According to Marler, J. and Boudreau, J. (2016), the term Human Resource Analytics (HRA) is coined around 2003 to aid human resource practitioners as an IT tool to analyze Human resource policies, procedures and activities, investment on workforce, and organizational performance data using various machine learning algorithms to predict and enable data driven decision making. Kossek (1987) stated that the main reasons of high workforce turnover in organizations are poor personnel, recruitment, supervisory policies and meagre grievance procedures or lack of motivation.

In India, the Special Needs Education (SEN) is under Ministry of Social Justice and Empowerment (MSJE). Differently abled children need special education teachers who are effectively trained and are conscious of the

challenges they will face while educating them. Generally, Fresh special education teachers enters into this profession with a great enthusiasm to interact and empower the differently abled with a great commitment. Soon, they are becoming frustrated and leaving the profession which is the primary cause for special education teacher scarcities. Finding skilled experts to fill special education classrooms is a challenge across the nation. As attrition rates continue to rise, lack of special education teachers are causing significant concerns about the quality of education differently abled students are receiving. Most of the Special education schools & colleges in India irrespective of the state and region are running short of certified special education. Workforces come and go. Appropriate strategies and philosophies are prerequisite to control the budding employee attrition rate.

II. STATEMENT OF THE PROBLEM

Why do employees quit? Attrition in the field of academics leads to teacher shortage problem which has severe implications especially across-the-board for students with disabilities. Endeavors to lessen wearing down ought to be founded on a comprehension of

components that add to exceptional instructors' choice to leave.

The proposed study focusses on investigating the factors of employee churn & retention with reference to the educators & mentors working in the schools & colleges for differently abled by applying various machine learning algorithms and statistical methods of R Studio, a popular HR analytical tool. The study further gives attention to the retention strategies being followed by the special schools and suggests the recommendations for reducing the attrition rates of special educators in turn helps in retaining the best talent.

III. RESEARCH METHODOLOGY

This section defines the research questions, objectives, hypothesis, research methodology, data sources, sampling, tools, and techniques for data analysis, scope and limitations of the study.

Research Questions

- RQ1: Explore the evolution of HR analytics & its application in the field of Human Resource Management.
- RQ2: Predict the variables influencing the high attrition rates of special education professionals using Workforce analytics.
- RQ3: Examine the employee retention strategies adapted and recommend the appropriate measures to retain the esteemed talented educators.

Research Objectives

- i. Study the scope of HR Analytics in the field of Employee Attrition and Retention.
- ii. Analyze the factors of employee turnover in Special education institutions.
- iii. Predict the reasons behind high turnover by examining the decisive variables influencing Employee attrition and emphasize them.
- iv. Review and analyze the employee retention strategies adapted
- v. Recommend the proactive action to design a tailored employee retention program to uphold the privileged Special educators.

Methodology

The proposed research is twofold. Initially descriptive research methodology is adapted, later proceeds with empirical approach. The data collected using structured questionnaires then the responses are coded into numerical form and stored in a dataset. It is then pre-processed making it ready for further analysis using statistical computations and machine learning algorithms of Python – popular analytical tool to draw precise conclusions and

recommendations for evidence-based predictive decision-making.

The researcher aims to determine to what extent there exists relationship between two or more variables that initiates employee's attrition rate in special schools.

Structured questionnaires are designed to measure the perception of employees. Devised questionnaires helps to gather the required data for the research and analysis. The respondents are expected to answer the questions concerning their work area. Questionnaires ensure that the respondents will be contacted at their convenience.

Schedules are also formulated using five point Likert scale such as strongly agree-1, agree-2, neutral-3, disagree-4, strongly disagree-5. It also analyses the correlations among the satisfaction levels, and reasons for employee attrition.

Data Sources

As capturing genuine facts is the core of the investigation, proper care has been taken while gathering. Quality information leads to informed decisions further paves a right path for further analysis, study, and research.

Primary Data sources: It includes questionnaires, and surveys which are prepared to gather factual data from the respondents working in Special education institutions in Hyderabad, (Telangana state).

Secondary Data Sources: To support different arguments raised in the study, the secondary source of data would be considered as an important part of the research. Relevant literature survey, magazines, exit interview information, journal publications, websites etc. are the key sources.

Sampling

The Judgement Sampling method - a type of non-probability sampling method is used for selecting the sample from the selected special schools and colleges in Telangana state. It suits the circumstances where the improvement of testing outline is a troublesome and tedious assignment. Initially nine institutions have been selected for the current study viz. two schools of mentally handicapped, visually impaired, deaf & dumb, physically disabled each and a college for visually challenged. Later in the due course of data collection, additional respondents will be chosen. The sample size of the respondents is assumed to be 250.

Scope and limitations of the Study

The study emphasizes on the employee turnover and retention of the educators of special schools only. The proposed study is limited to the chosen special education institutions in Telangana (state). The proposed work focusses on only particular factors viz. Demographics, organization culture, Job satisfaction, Work life balance,

Rewards & recognition, Work environment, Superior – subordinate relationship, Retention strategies

IV. NEED OF THE PROPOSED RESEARCH WORK

The National Policy for Persons with Disabilities, 2006 perceives that Persons with Disabilities are esteemed human asset for any nation and tries to make a domain that gives equivalent chances and assurance of their privileges. Disabled children are susceptible and their life is not the bed of roses like normal children. They come across various attitudinal, physical, and monetary hurdles. It is the moral responsibility of every one of us to stretch a helping hand in not only empowering them but also providing them a chance to lead their life independently. Churn of those special education mentors directly upsets the welfare of the gifted students. Therefore the researcher wants to penetrate into this narrow field and wants to investigate the factors affecting their turnover in turn if the management responds proximately it may lead to talent retention.

V. LITERATURE REVIEW

The researcher has examined different emerging concepts relating to HR analytics, its application in turn-over and retention of employees with reference to special education institutions to provide foundation for current research.

HR Analytics:

Kavanagh & Carlson, (2018) revealed that HR investigation has existed since the readiness of Second World War. HR Analytics has not been greeted wholeheartedly. Rasmussen and Ulrich (2015) accept that in spite of the investigate HR Analytics is confronting, it is still seen as having potential in the event that it tends to the prerequisites for its prosperity. The territory of HR

Analytics is addressed from various view points by HR experts themselves. (Bassi, 2011; Rasmussen and Ulrich, 2016). Marler, J. furthermore, Boudreau, J. (2016) expressed that there has been just little measure of scholarly research on the point, and the hypothetically inferred speculation are regularly not tried.

Devenport et al., (2010) states that the HR analyst must have an expertise in various analytical techniques, besides Human Resource Information Systems, processes in addition to related laws. Shapiro, Harris and Davenport (2010) stated that “companies have taken the guesswork out of employee management leveraging analytics to improve their method of attracting and retaining the talent, connecting their employee data to business performance, differentiating themselves from competitors and more”.

Visier Inc. furthermore, Fisher Vista (2013) prescribe that before transforming to cutting edge workforce measurements, organizations should concentrate on three dimensional HR zones – Turnover, Recruiting and Employee execution.

In the ongoing report, the foundation of corporate profitability (2012) contends that the analytical predictions are underused for measuring human capital – even by top performing business associations. The foundation accepts that by forecasting HR investigations, organizations will have the option to address:

- The risk of probability of voluntary turnover of the employees.
- The significant factors motivating the employees to leave?
- The change over plans of potential employees who are planning to quit?
- Where can we find new perspective rewarding hires?

Table 1. HR Analytics and its application in HRM Studies

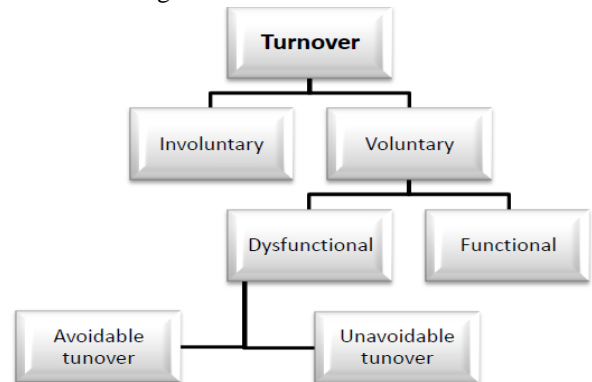
Author(s), Year, Title	Purpose of Study	Type of research / study	Results /Major findings
Dr. Indranil Bose, Dani Jose., (2018). <i>Evolution of Human Resource Analytics: An Exploratory study.</i>	Studied the turns in the evolution of HR analytics till now and the factors influencing the special area of people analytics.	Descriptive study	The observations of their study states that the factors like choosing the right purpose and the moment of interventions are properly required to be implemented for optimal impact to be caused by HR analytics in the organizations.
Anjali T.V., (2018). <i>HR Analytics and its impact on organizational excellence.</i>	Aims to clarify the promise of HR analytics in uplifting the eminence of career of human resource professionals. Use of analytics in the field of HR proves to be competitive advantage for many organizations paving path for organizational excellence.	Descriptive study	Thrown light on benefits, importance and impacts of HR analytics, stating that the current state of HR analytics heavily depends on the data integration which emphasizes on overarching business disciplines and centralizing data.
Aizhan Tursunbayeva, Stefani Di Lauro, Claudia Pagliari., (2018). <i>People Analytics- A scoping review of conceptual boundaries and prepositions.</i>	They made an attempt to reveal the association of people analytics with HRM as the published evidences of these outcomes are sparse.	Literature review from secondary data sources	Manpower analytics, staff analytics were not caught up in Google until 2004. His discoveries state that People Analytics was to a great extent lined up with HRM, anyway its improvement mirrors the moving focal point of HR divisions from supporting useful to key authoritative

			necessities. Thought of moral issues is to a great extent missing.
Priyanaka Singh, Rajesh Kumar Upadhyay, Dr. Monika Srivastava., (2017). <i>The role of HR analytics in Higher education institutions.</i>	The authors discussed the hypothetical framework of analytics in institutes of higher learning.	Exploratory Research	The investigation thought of classifying organizational perspective of data analytics into academic analytics and operational analytics and a unique mention of HRA as its commitment in accomplishing the business prominence for the associations is indispensable.
Shilpy Verma, Prof. Rajesh Mehrotra., (2017). <i>Research paper on the role of Analytics in renovating Human Resource Management.</i>	This research study proposed to inspect the outlook of managers and human resource personnel towards the outcome of analytics application in HRM and study the imperative roles of analytics in managing the workforce strategically	Research Paper	The research strongly recommends an analytics integrated HRM that can work as a strategic business partner to the company.
P. Lakshmi keerthi, Dr.P.Raghunatha Reddy., (2017). <i>HR Analytics – An effective Evidence based HRM Tool.</i>	The researcher states that, analytically HR is the most ignored field so far. Attempts to discover that information driven proof based HRM should rehearse with analytics, decision making and critical thinking.	Literature Review	This paper raised the significance of HR Analytics, practices and its relevance in different concerns. It likewise centered on gathering occasional advancements in HR investigation being a viable proof based HR instrument.
Kylie Goodell King., (2016). <i>Data Analytics in Human Resources: A case study and critical review</i>	To provide an assessment of Human resource analytics literature both supportive and critical. Argues the involvement of academia in implementing analytical practices, and illustrates the impact of quantitative tools on growth of HR	Exploratory Research.	Deliverables included the statistical procedure used to make the model other than clarifying its present and future use. A usage plan enumerating how information ought to be gathered and utilized later on is advised.
Sujeet N. Mishra, Dev Raghendra Lama, Yogesh Pal., (2016). <i>Human Resource Predictive Analytics (HRPA) for HR Management in Organizations.</i>	This paper introduced the concept of HRPA, discussed the three aspects of HRPA, its need, approach and application.	Review paper	Based on their findings, the future HR managers must expertise predictive analytical skills to keep themselves and their parent organizations competent at par with the global competition. Concluded that till 2020, HRPA will fully take over traditional analytics.
K.Bindu., (2016). <i>A Review of Poor HR Analytical skills.</i>	This research paper studies the contemporary state of HRA and tried to figure out the aspects which HR professionals has to inculcate to induce HR analytics in their organizational decision making.	Research Paper	Analyzed the reasons and limitations for poor HR skills and concluded that the action ability of facts and figures and the ultimate workable solutions leading to organized decision making.
P.Madhavi Lakshmi, P. Siva Pratap., (2016). <i>HR Analytics – A Strategic approach to HR effectiveness.</i>	This paper highlights the multifaceted business analytics for developing and implementing efficient and operational HR tactics.	Review paper	The authors concluded that HR needs to move past negligible answering to precise forecasting. The experiences determined can improve value of the business just as staff commitment and fulfillment.
Weena Yancey M Momin, Taruna., (2015). <i>HR Analytics transforming Human Resource Management.</i>	This study examines the capability of HRA for enhancing the employee performance further paving potential productive path in terms of employee productivity besides generating high revenue.	Case study	Illustrates that HRA is an emerging HR tool not a mere hype.

Employee churn & Retention in Special Education Institutions

Thornton, Bill, et al., (2007) says that new requests and high turnover rates of a specialized curriculum educators have initiated an emergency for training and unutterable trauma for a specialized curriculum executives and principals. They further focused on that the lack of exceptionally qualified specialized curriculum instructors has altogether expanded the strain to enlist and hold them. Thornton, Bill; Gary Peltier; Ricky Medina (2007), discussed “the factors the affect teacher attrition and proactive recommendations to address the shortage. In addition, the authors made suggestions for systematic reform and improvement level of job satisfaction for special education teachers”.

Fig 1. Frame Work of Staff Turnover



Source: Griffeth, R. W., & Hom, P. W. (2001). Retaining valued employees. Thousand Oaks, CA: Sage Publications.

Table 2. Special Education Turnover and Retention Studies

Author(s), Year	Study purpose / (s)	Methodology / Sample	Results /major findings
Akhtar Bibi, Muhammad Adnan Khalid, Amina Hussain., (2017).	The purpose of the present study is to review the association between perceived managerial backing, organizational assurance and job contentment among custom curriculum instructors of Pakistan	The mentioned work is based on cross sectional research design and Non-Probability purposive sampling technique. 85 respondents were gathered from various specialized curriculum institutions of Punjab and Pakistan.	Results suggested the constructive association between perceived organizational support, affective commitment, normative commitment and job satisfaction, whereas, there is no association between perceived organizational support and continuous assurance as well as relationship between job satisfaction and continuous commitment among specialized curriculum instructors in Pakistan.
Siri Marie Olson ., (2017)	To pick up the point of view of a custom curriculum educators with respect to factors adding to their choices to remain in little schools.	Qualitative and quantitative methods were together adopted by the researcher in this two phase multi-case study.	The results revealed that compensation was not mentioned as revealed factor by the respondents besides the current report on low strength schools attested sturdy impact of encouraging principal study on specialized curriculum institutors' retention.
Amy Meeks., (2015).	The intention of this investigation was to figure out what elements and observations add to a custom curriculum executives staying at work or leaving the position. The voices improved with in this work causes us to perceive what is underneath the outside of a specialized curriculum executive turnover.	Basic qualitative research study.	In view of the outcomes, the analyst finishes up there are four intertwined subjects that add to turnover of a custom curriculum administrator's viz., Money, absence of help, stress and legislative issues. The author recommended to decide the unwavering quality of his investigation by duplicating with other journal articles who have their own custom curriculum programs that gives specialized curriculum devices.
Williams, Joy, Dikes, Catherine., (2015).	This paper researched the relationship between the burnout subscales of passionate weariness, depersonalization, and individual achievement comparative with 10 demographic factors.	Questionnaires on demographic variables	Inferential examination of sexual orientation and conjugal status identified with the three subscales showed that the distinctions were not factually huge. Results brought about training and strategy proposals for a specialized curriculum educators and instructive pioneers.
Al-Zboon, Eman K., Al_Dababneh, Khuloud A. H., Ahmad, Jamal., (2015)	The motivation behind this work was to explore the degree of Quality of work life (QOWL) of Jordanian specialized curriculum educators.	Survey and Questionnaires	Results demonstrated that specialized curriculum educators referred to average degree of QOWL. Besides, educators appraised directors' and partners' regard as the best thing of QOWL though, instructors evaluated cooperation in basic leadership in school as the most reduced thing of QOWL scale. Results demonstrated that there is no factually huge mean contrasts because of educators' sex, training levels, and sort of school.
Jereny E. Vittek., (2015)	A basic survey of writing on a custom curriculum educator steady loss and maintenance. The examination concentrated on journal articles from 2004 to 2015.	Critical review articles referenced by searching ERIC on the online database EbscoHost.	The schools are not appropriately absorbing their new extraordinary instructing educators in to their regions. New custom curriculum instructors are nor accepting the proper tutoring or backing from their managers. Future research around there should concentrate on four zones that analysts have found to help educator retention: job satisfaction, induction programs, mentoring and managerial help.
Dhanalakshmi, V., Jeryda Gnanajane Eljo., (2014).	This study tried to reveal the job satisfaction levels among special educators concerned with the children having developmental disabilities.	The researcher has adopted descriptive research design. Stratified disproportionate random sampling method was selected and sample size was 50.	The study revealed that the majority of respondents have moderate level of job satisfaction. Significant relation was observed between the job satisfaction scale and their family income in her study. Based on the findings the extrinsic factors were more influenced the level of job satisfaction amongst special educators.
Sally A. Thort., (2013).	The focus of this study was to identify the reasons of retention of trainers in	Using qualitative mixed method study, factors adding to their life	Findings showed that the capacity of extraordinary instructors to move among the

	special education institutions for five or more year's tenure.	span were investigated to show the suggestions for the maintenance of a custom curriculum educators.	various levels and projects was a factor for their life span. Adaptability was referred to as a significant factor for life span. None of the members showed a craving to leave specialized curriculum institutions.
Danivelle Angelina Sheldrake., (2013).	To investigate the issue wearing down and maintenance of special educators and decide whether regulatory and specialized curriculum educators distinguish comparable reasons instructors' steady loss and mediations to build degree of consistency.	Pursued mixed technique distinct research study dependent on the review consequences of 66 managers and 284 custom curriculum instructors in Portland metro region.	Researcher reasoned that the financial down turn had minimal by and large effect on instructor steady loss and a custom curriculum educator's choice to stay in the job. In light of the aftereffects of the survey, specialized curriculum pioneer ought to recognize the approaches to diminish case load as well as limit non-instructional errands.
Felix Kwame Kumedzro., (2012).	Planned for exploring elements of employment fulfillment and maintenance of exceptional needs training instructors in southern Ghana. It centers around recognizing the connection among pay and maintenance, building up connection between leadership styles and maintenance, depicting the degree to which interpersonal relationship credits maintenance and effect of job satisfaction on retention.	The author adopted descriptive correlational survey method, utilizing mixed methodologies in data capture and analysis.	This study concentrated the HOD's of special needs schools in southern Ghana confronted various regulatory difficulties which had negative effect on work fulfillment and maintenance of a specialized curriculum instructors.
Vander Westhuizen, Jeanne; Esterhuyse, Karel, et al., (2012).	The core objective of this work was to inculcate the job satisfaction feel amongst special schools trainers.	Data has been captured and interpreted using short biographical questionnaire and the Minnesota Satisfaction Questionnaire.	The outcomes showed that the instructors encountered a normal degree of occupation fulfillment. Notwithstanding this discovering, contrasts were likewise found in the degrees of occupation fulfillment between various races, however not between sexual orientations.
Mohammed Abushaira., (2012).	The author intended to explore job satisfaction amongst special education teachers in Jordan based to some specific factors.	Using survey technique, Nine dimensional questionnaire was devised which has been circulated to 139 special needs trainers (16 males and 123 females).	Results uncovered that the degree of occupation fulfillment among the respondents was moderate. No significant measurable contrasts were found in the respondents' degree of occupation fulfillment because of sex. Be that as it may, noteworthy contrasts were found in the respondents' degree of employment fulfillment because of age favoring more youthful instructors. The investigation introduced an unmistakable perspective on the activity fulfillment level among a specialized curriculum educators in Jordan, which improves their work viability. Further, the examination suggests the need of giving a fitting work environment to energize the educators who work with the multi-incapacitated understudies.
Deborah K. Imhoff., (2012).	It looks at the developing proof that desk work troubles related with the occupations of a custom curriculum instructors training differently abled are adding to high steady loss rate among these teaching professionals.	Top to bottom meetings were led with 9 instructive masters in two distinctive rudimentary specialized elementary curriculum settings: the resource specialist program and the special day class program.	Briefed that because of the growing paper work demands, the special educators are undergoing inexpressible stress, time schedules per teaching and non-teaching work besides serving students, the impact of fatigue on fresh and veteran professionals molding the specially abled.
Boltz, Dedorah L.; Collins, L., (2010).	Examined the standards used to prepare special education administrators for inclusion in diverse, standards-based context.	Structured Questionnaires and Survey	Offered in-depth clarity about the knowledge and abilities expected to encourage the consideration of differently abled trainees in models based setting.

RESEARCH GAP

Literature reviews clearly speaks about the current length and breadth of the work that has been done so

far in the field employee turnover and retention with reference to special education institutions in India and abroad. Majority of the works on workforce attrition

and retention focused on enterprises, bank, IT, ITES employees and faculties of higher education. Despite the apparent need of special educators, very few researches have been carried over in the context of special educators. Therefore this area deserves substantial attention.

Being a volunteer for organization for visually impaired, the researcher is deeply concerned with the challenges being faced by special education teachers, the researcher is motivated to investigate the variables influencing their decision for their leaving in turn alerting the institutions to retain the talented experienced professionals by satisfying their needs and creating a conceivable work environment.

Furthermore, more of the prevailing papers in this context are the outcome of the multifaceted investigations performed on Special education professionals all over the world other than India. No straight away research has been done on the employee churn and retention of workforce of special education institutions in India leveraging HR Analytics

VI. CONCLUSION

As it is known, employees are the most cherished resources of any organization / institution, efforts to retain the valued staff must be the fundamental and foremost task. Reducing the employee churn rate and retaining the rewarding employees must be the key concern for any institution.

It is indeed a challenge for parents with children who have special needs, and picks up only choice to put them in special schools. If this problem is not properly addressed and researched right now, special education sector is foreseen to be certainly an important segment to suffer in the near future. Prospective stakeholders may use the outcomes of the research to further explore this topic or modify present employee retention strategies in order to reduce the rate of attrition.

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