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Impact of Disruptive Technology Factors on Sustainable Recruitment and Selection Practices

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ABSTRACT

Purpose: In this research paper, we aim to explore how the modern disruptive technologies like social media, automation, mobile technology, people analytics, and data mining are affecting the organizations in order to find and choose the employees. We want to understand how these technologies, on their own and together, change traditional hiring methods. By studying the influence of social media, automation tools, mobile tech, people analytics, and data mining, we hope to offer practical insights. Here we target to help the organizations in order to adapt and enhance their recruitment and selection processes in today's fast-changing digital landscape. We believe that by understanding how these technologies can enhance talent acquisition, we can provide valuable recommendations for creating more effective and sustainable approaches to hiring.

Design/Methodology/Approach: This study was done based on the survey method which includes the questionnaire where the target audience are IT company employees which was circulated to around 160 respondents, 127 recorded responses were obtained out of which 16 responses were found incomplete or invalid. 111 responses were finally obtained for the study by adopting the snowball sampling method.

Findings: Based upon the results which are interpreted, It is shown that sustainable recruitment and selection practices are needed to come out with a new shape for the better enhanced results without replacing some considered elements of traditional practices of HR. But through the involvement of the different disruptive technologies that can foster the need and development for the proposed model which can give the better outcomes finest to the organizational performance.

Originality: This paper has been developed based on the original ideas on where these disruptive technologies can be used and implemented for the better results in recruitment practices which will be interconnected to the human resources for fostering the sustainable environment in the organization.

Social implications: By implementing these disruptive advanced technological methods, the organizations as well as the employees can benefit through the resulted sustainable recruitment and selection practices for their upskilling and career enhanced in terms of employees and increased performance and morale in terms of the organization.

Keywords: Organizational Performance, Employee morale, Recruitment and selection, Sustainable environment, Disruptive technological methods.

Introduction:

Reshaping of business operations being carried out in the industries are revolutionizing with the help of disruptive technologies. Digital transformation is being embraced in organizations, leading to the requirement of examining the role of disruptive technology and its impact on sustainable recruitment and selection practices. Disruptive technologies involving data analytics, artificial intelligence, Blockchain, Robotics and Automation potentially impact workforce management, stability of organization and HR Functions. In today's fast changing society, technology is revolutionizing the way companies find and select new employees. More specifically this study looks at how new and disruptive technologies can change the way companies hire people. Secondly, it asks if these changes can be sustainable in the future. As artificial intelligence and automation grow important parts of their hiring processes, there are challenges--and opportunities. On the one hand, this paper explores how these new technologies are changing ways of approaching employment. On the other hand, it looks at ways which they can be used rationally. Apart from promoting speed and efficiency in decision-making, of course these also raise the problems of privacy, prejudice or humanity in decisions. The aim of this study is to investigate the delicate relationship between these disruptive technologies and sustainable hiring. This research will examine how these

technologies are reshaping ethics, inclusivity and environmental responsibility in the hope that it may be of assistance to both students of academe and professionals. Finally, it's a matter of helping companies find the intermediate position between functional and sustainable hiring processes--while not getting lost in matters technical. In this fast-changing market, what impact are disruptive technologies having on sustainable employment? That way, companies and job seekers can make intelligent choices. In this way, not only does the research itself add to the academic debate on this topic, it also provides practical direction for human resource personnel and leaders who are preparing themselves for their new future of employment. The goal of this paper is to combine technology, ethics and sustainability into one--to encourage organizations to move toward a future wherein advanced technological capability is joined by an appropriate understanding of hiring choices.

Construct	Definition	Reference
Social Media	Social media denotes digital platforms facilitating dynamic communication and information exchange. This technological disruptor reshapes traditional recruitment by providing organizations with tools for extensive audience engagement. The disruptive elements of social media, including advanced analytics and algorithmic matching, transform conventional approaches to talent acquisition. This transformation, characterized by heightened efficiency, accuracy, and inclusivity, contributes to sustainable recruitment practices.	Bondarouk & Ruel (2017)
Automation	Automation means using advanced technology to refine and optimize the hiring process. This means integrating artificial intelligence, machine learning algorithms and automated systems to manage candidate data, evaluate qualifications, and conduct telephone interviews. The aim is to save time and money on recruitment procedures. But on the other hand, it's important to find a balance between automation and retaining human factors for equitable and ethical recruitment.	Marler & Parry (2016).
Mobile Technology	It uses mobile technology in portable devices and applications to break the mold of recruitment, eliminating the constraints of space and time of the desktop-dominated method. It not only provides smooth channels for communications and remote cooperation, but also makes all kinds of information available at your fingertips. But simplifying selection and eliminating geography, it becomes possible to select candidates from everywhere. Also, not only does this save time, energy and money, it is also inclusive, and we can see that inclusive companies are generally more easily able to hire sustainably.	Olivas – Lujan (2006)
People analytics	Based on the information gathered on talent acquisition and workforce dynamics, and employing insights generated from data-driven analysis, as well as advanced technologies such as AI (artificial intelligence) and machine learning, it aims to find a way to have those who have a responsibility to meet the needs of a particular group of people, the people themselves, and the recommendations of data-driven analysis take initiative, With people analytics, organizations can make better decisions and enhance loyalty and engagement to productivity, and uncover top talent. This method of doing things allows businesses to find talent online, gear up for disruption in the technology field, and stay ahead as a HR organization.	Edwards M.R. & Edwards K. (2016).
Data Mining	This means building an analytical model that detects valuable insights in big datasets, and then using	Chen et al. (1996)

	disruptive technologies to reconstruct recruitment and selection methods. Data acquisition must be done in a dispersed manner, from sources such as candidate profiles and market trends, in order to improve the efficiency and environmental friendliness of recruitment procedures. Through discovering hidden patterns, data mining allows organizations to make sound choices about qualified talent and refine hiring strategies to adapt to the changing hiring landscape in which disruptive technology plays a role.	

Review of Literature:

This study focuses on making sure that how companies manage their employees aligns with the latest technology trends, specifically Industry 4.0. The goal is to achieve sustainable human resource management, which is crucial for the broader aim of "decent work and economic growth." Using a mix of interviews and a prioritization method, the research identifies the most significant challenges in implementing these practices in a country like India. The key findings emphasize that issues related to employee performance appraisal and learning and development are most important. This suggests that ensuring job security and continuous learning opportunities for employees is vital in the face of technological disruptions. The study concludes that adopting sustainable human resource practices is essential for economic improvement and adapting to industry changes. (Agarwal et.al, 2022).

This study looks into how using artificial intelligence (AI) in hiring can be good and bad, especially from the viewpoint of recruiters in a big, diverse company. They talked to ten recruiters in this company and found that AI can make routine tasks easier by doing them automatically. But, at the same time, recruiters worry about losing their jobs to machines. Even though AI can help with hiring, the recruiters think their human touch is still essential. This research can be valuable because it is showing both the good and bad facets of using AI in human resource management, where it highlights the need to get to know a balance between the technology and people in the hiring and recruitment process (Ore et.al, 2022).

This research paper introduces new ways to use smart technology for hiring employees. It explores how artificial intelligence and machine learning, like LSA, BERT, and SVM, can make the hiring process better. The study looks at different techniques using HR resumes and finds that LSA and BERT are good at figuring out important topics. SVM improves how well the system predicts by using cross-validation and choosing the right variables. The study is the first to use these methods in HR and resume classification. It suggests a better system for HR professionals to understand resume recommendations and helps companies find better ways to screen and evaluate resumes (Tian et.al, 2022).

This research paper focuses on the use of text mining to improve the hiring and task allocation processes in organizations. With the growth of unstructured data, the study introduces a method called synset-based document matrix construction to enhance recommendations and tackle scalability issues. The proposed Task Recommendation System employs features like synset-based extraction and semantic clustering to refine clusters and improve precision. It Experiments on a different volume of resumes show that the methodology of approach reduces errors by the rate of 30%, increases the precision by the rate of 20%, and decreases the dimensions by the rate of 60% when compared to existing methods. The system has practical implications for human resource management, aiding in recruitment, promotions, and training processes, and it also highlights its potential in knowledge management applications (Bafna et.al, 2019).

Research Objectives:

- To find out the determinants of the sustainable recruitment and selection practices.
- To find the relationship between external variables (social media, Data Mining, People Analytics, Automation, Mobile Technology) and dependent variable (Recruitment and Selection practices).
- To investigate the perception on the impact of disruptive technologies on the HR Practices (Recruitment and Selection).
- To contribute suggestions for the development of recruitment and selection practices in the selective IT Companies.

Research Model

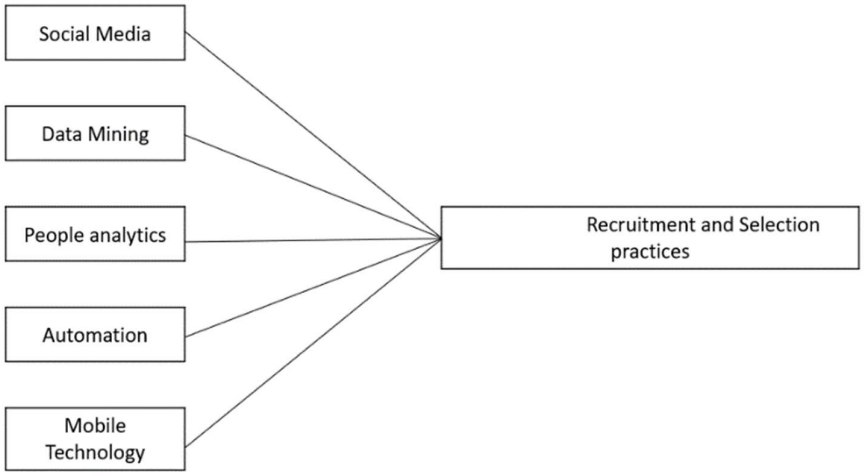

Fig 1: Research Model

Research Methodology:

The proposed model was derived by analyzing various research articles keeping the research gap in mind. Social Media (SM), Data Mining (DM), People analytics (PA), Automation (AT), & Mobile Technology (MT) are the constructs considered for the study. Survey research is the research strategy being adopted to retrieve data from the required sample in an economical way Saunders et.al (2003). Data collection was carried out in the form of questionnaires. The framed questionnaire was sent through online. The purpose of the research and objectives was clearly explained to the respondents in advance (openheim 1996).

Snowball sampling technique was adopted since the researcher contacted a small group pf respondent who are the right choice to the research topic and established contact with them (Bryman 2008). Since the researcher is from Chennai, the geographical location for the research turned out to be same. Questionnaire was circulated to around 160 respondents, 127 recorded responses were obtained out of which 16 responses were found incomplete or invalid. 111 responses were finally obtained for the study. The reliability coefficient value ranged from 0.7 to 0.8 which is acceptable in exploratory research.

Analysis and Interpretation

Reliability:

Reliability		
S. No	**Variables**	**Reliability**
1	**Social Media**	**0.781**
2	**Automation**	**0.709**
3	**Mobile Technology**	**0.754**
4	**People Analytics**	**0.797**
5	**Data Mining**	**0.713**
6	**Sustainable Recruitment and Selection Practices**	**0.727**

1. **Table 1 - Cronbach's Alpha test for reliability**

The above table shows the reliability values of the independent variables' social media, Automation, Mobile technology, People analytics, Data Minig & dependent variable Sustainable recruitment and selection practices as 0.781, 0.709, 0.754, 0.797, 0.713 & 0.727 which are at good level of consistency and strong reliability that is acceptable respectively.

Demographic Profile:

S. No	Demographic Profile of Respondents	Frequency	%
1	Age of the respondents		
	<26 years	20	18.01
	27 -36 years	40	36.03
	37 - 46 years	33	29.72
	47 - 57 years	18	16.21
2	Gender		
	Male	78	70.27
	Female	33	29.72
3	Educational Qualification		
	UG	69	62.16
	PG	42	37.83
4	Year(s) of service in current possession		
	<4	35	31.53
	4-9	25	22.52
	10-14	18	16.21
	14-19	12	10.81
	Above 19	21	18.91
Total		111	100

Table 2 - Demographic Profile of the Respondents

From the above demographic profile section, it is seen that highest number of respondents are in the age group of 27- 36 with the most male respondents 70.27% out of total with consisting of majority from UG educational qualification, where the years of experience are majority from less than four years counting to 35 out of total respondents.

Correlation:

		Social Media	Automation	Mobile Technology	People Analytics	Data Mining
Social Media	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	111				
Automation	Pearson Correlation	.703**	1			
	Sig. (2-tailed)	.000				
	N	111	111			
Mobile Technology	Pearson Correlation	.655**	.732**	1		
	Sig. (2-tailed)	.000	.000			
	N	111	111	111		
People Analytics	Pearson Correlation	.626**	.687**	.816**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	111	111	111	111	
Data Mining	Pearson Correlation	.726**	.713**	.714**	.770**	1

	Sig. (2-tailed)	**.000**	**.000**	**.000**	**.000**	
	N	**111**	**111**	**111**	**111**	**111**
****. Correlation is significant at the 0.01 level (2-tailed).**						

Table 3 – Correlation

The statistical technique used to measure the connection between two continuous variables is correlation analysis. The correlation value demonstrates how two constructs are related and in what direction. The highest connection between effectiveness and the intention to remain loyal was found in this study to range between .626 to .816. The positive relationship found social media, automation, mobile technology, people analytics and data mining.

Regression:

2. **Model Summary**				
3. **Model**	4. **R**	5. **R Square**	6. **Adjusted R Square**	7. **Std. Error of the Estimate**
8. **1**	9. **.602**[a]	10. **.363**	11. **.357**	12. **2.125**
13. **a. Predictors: (Constant), social media, Automation, Mobile Technology, People Analytics, and Data Mining**				

14.

15. **Table 4 – Model Summary**

16.

ANOVA[a]						
Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	**Regression**	**1553.589**	**5**	**255.586**	**56.681**	**.000**[b]
	Residual	**2749.556**	**107**	**4.376**		
	Total	**4301.145**	**113**			
a. Dependent Variable: Sustainable Recruitment and Selection Practices						
b. Predictors: (Constant), social media, Automation, Mobile Technology, People Analytics, and Data Mining						

Table 5 – ANOVA

17. **Coefficients**						
18. **Model**		19. **Unstandardized Coefficients**		20. **Standardized Coefficients**	21. **t**	22. **Sig.**
		23. **B**	24. **Std. Error**	25. **Beta**		
26. **1**	**27. (Constant)**	28. **-.622**	29. **.315**	30.	31. **-1.879**	32. **.055**
	33. Social Media	34. **.043**	35. **.022**	36. **.134**	37. **2.411**	38. **.023**
	39. Automation	40. **.032**	41. **.026**	42. **.095**	43. **1.989**	44. **.046**
	45. Mobile Technology	46. **.015**	47. **.031**	48. **.027**	49. **0.362**	50. **.734**
	51. People Analytics	52. **.054**	53. **.029**	54. **.115**	55. **1.971**	56. **.038**
	57. Data Mining	58. **.052**	59. **.019**	60. **.124**	61. **2.065**	62. **.049**
63. **a. Dependent Variable: Sustainable Recruitment and Selection Practices**						

64. **Table 6 – Coefficients**

Regression analysis examines the causal link between numerous variables. Regression analysis examines the relationship between the dependent variable and independent variable. The study table value demonstrates how recruitment and selection practices has a big impact on social media, data mining, people analytics, automation and mobile technology. The values of model summary show the positive values and make the recruitment selection practices easier.

SEM Model:

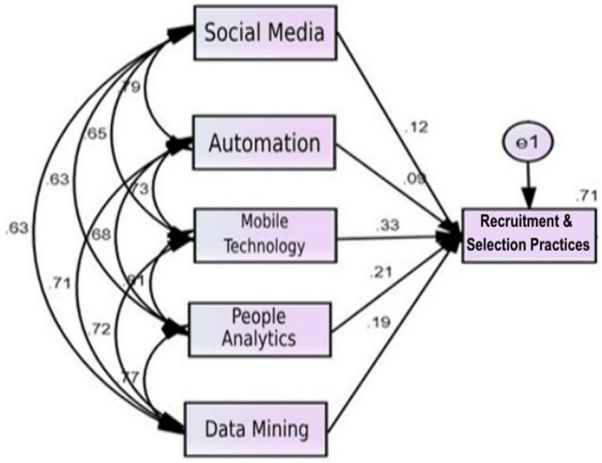

Figure 2 – SEM Model

The indices of the above SEM model are as follows,

Indices	Actual	Suggested value
CMIN	12.064	
CMIN/DF	3.019	< 5.00 (Hair et al., 1998)
GFI	0.991	> 0.90 (Hu and Bentler, 1999)
AGFI	0.952	> 0.90 (Hair et al. 2006)
NFI	0.984	> 0.90 (Hu and Bentler, 1999)
CFI	0.986	> 0.90 (Daire et al., 2008)
RMR	0.051	< 0.08 (Hair et al. 2006)
RMSEA	0.042	< 0.08 (Hair et al. 2006)

Table 5 – SEM Indices

As we see from the above table, all the research indices with the various suggested values are compared with the resulted output from the variables that are analyzed which are falling under the acceptable limit thus making the model fit for the study for the implementation for the better results in fast-pacing world which are stating that the statements are correlated with the mentioned constructions.

Findings: The study was developed based on the various phases out of which the demographic profiles of the respondents (111) are explained in detailed manner. There the social media a=influence on the demographic profile is discussed carried along with the automation and and mobile technology including their determinants also. Next when it comes to people analytics and data mining for the sustainable environment, the influence on the demographic profile were analyzed for the enhanced results. Through the reliability test, it is seen that the data was significant and acceptable, thus recommended for the further interpretation. The It employees (111 respondents) were divided on the different categories which are depending upon their age, gender, years of experience which are mentioned above out of which 78 respondents are male and 33 respondents are female. 69 respondents are from the UG background and 42 respondents are from the PG educational qualification. The highest number of the respondents in the years of experience are from the less than four years from the counted to be 35. From the regression analysis table, It is seen that significantly higher between the people analytics and mobile technology, where it holds the lesser value between the social media and people analytics. According to the SEM model analysis, this model fits perfectly with the measured determinants.

Suggestions:

1. Virtual Job Events: Reduce the number of people who travel by using social media to hold job fairs online.
2. Go Digital: Accept applications and resumes electronically through social media, and use less paper.
3. Remote Work Opportunities: To reduce commuting and office space, advertise that work can be done at home on social media.
4. Cloud-Based Efficiency: Optimized resource use, scalability and infrastructure needs Minimize the dependence on cloud platforms.
5. Integrate Machine Learning: Use machine learning algorithms in improving candidate matching by cultural fit, skills, and experience.
6. Accessible Job Portals: Simplifying the exploration of job opportunities by making career websites and job portals mobile-friendly.
7. Mobile Talent Analytics: Build mobile-friendly analytics dashboards for real-time recruitment insights.

Conclusion:

All in all, these social media, automation software, mobile tech and the new people analytics technologies are making data mining trends unavoidable. Tech factors are changing the way companies go about seeking and selecting their employees. With social media, recruiters can get a larger pool of candidates; meanwhile automation means going through resumes effortlessly. Mobile technology offers a more flexible job search and application procedure. On the other hand, people analytics and data mining use data on hand to determine who should be hired. Combined, these are tools that make recruiting more effective and take less time; they allow companies to attract the best people available. Social media is a super-utility for recruiters. And via LinkedIn, Twitter and Facebook platforms they can talk to many people about job opportunities. Automation entails using the computer to rapidly look over resumes, and then arranging interviews. People can search and apply for jobs on their smartphones with mobile technology. They are much freer now. Candidates are under a microscope today. With huge data piles and people analytics, all kinds of data mining can observe how candidates behave and perform. In this way companies can more intelligently choose who they hire in the first place. All these technologies complement each other, making it easier for companies to recruit the best people.

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