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A STUDY ONTHE ROLE OF ARTIFICIAL INTELLIGENCE AND AUTOMATION INRECRUITMENT AND SELECTION IN SOFTWARE COMPANIES

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ABSTRACT
The title of the research article is A Study on Recruitment and Selection Process in Das Manpower Consultancy Services, Chennai, and it examines the effectiveness of the recruitment and selection processes enacted by the organizations. From an organizational standpoint, recruitment and selection processes are critical in the attainment of qualified manpower, however, much organizational performance, productivity, and client satisfaction can suffer from recruitment scope, selection criteria, poor predication, and hiring time delays. Ineffective hiring can result in a misfit of candidates, turnover, excess recruitment costs and poor organizational effectiveness. The primary objective of this research is to evaluate an organisation's recruitment and selection procedures; as well as, secondary objectives which will evaluate all recruitment channels used, determine the efficacy of selection criteria used, evaluate methods of assessment and assess the efficiency of the overall hiring process. The study specifically focuses on recruitment and selection methods used within an organisation, and concentrates only upon persons involved in the recruitment and selection processes within an organisation. Additionally, the research design used within this study will be a descriptive design using Convenience Sampling to select individuals participating in this research study, with the sample population consisting of a small group of persons associated with the recruitment and selection processes. The data contained within the study will be collected via questionnaires administered to the sample population; the data contained within the study will primarily consist of primary data collected from questionnaires, along with supplemental secondary data collected from review of company files, journals, books, and internet resources. The outcomes of the research indicate both the beneficial aspects of, and issues with, the recruitment and selection systems that companies presently utilize to fill open positions and the specific areas which should be improved in order to strengthen future administrative efforts. A series of recommendations are provided in the study based on the data collected from the findings to enhance the sources from which employees may be recruited, refine how employees will be selected for the position, the means through which employees will be assessed for their ability to excel on the job, and shorten the number of days to hire a candidate for the job. Some of the conclusion drawn from the study include that if an effective recruitment and selection procedure is well-designed it will produce quality employees and produce better results for a business.

KEYWORDS: Artificial Intelligence, Automation, Recruitment and Selection, Software Industry, HR Technology, Talent Acquisition, Predictive Analytics.

INTRODUCTION

The role of recruitment and selection is an important function of the recruitment and selection process is to determine the long-term success and continued viability of an organization. In the software industry, the major source of competitive advantage and innovation is the people or human resources within the organization. Because software companies work in continually evolving and rapidly changing environments, they require highly skilled professionals with a combination of specific technical expertise, the capacity to adapt to change, and the ability to constantly learn. The traditional method of recruitment and selection is primarily based on a combination of manual screening and decision-making, which are both very time-consuming, costly, and do not address the rapidly growing demand for talent within the software industry. The emergence of AI and automation as key innovators of the Human Resources function is changing how many businesses find, evaluate and choose new hires. AI refers to machines and systems that have the ability to perform tasks that mimic human reasoning, judgment, learning and decision making. Automation is the application of technology to perform tasks of a defined and repetitive nature with little to no human involvement. Both AI and Automation used in selecting and recruiting applicants assist software development companies in reducing recruiting time, increasing accuracy and improving entering into employment relationships with their applicants.

AI-driven recruitment solutions are utilised throughout the entirety of the hiring process - from identifying potential talent to evaluating skills and analysing interviews, as well as providing predictive analytics on the various stages of recruitment. The advancements in the algorithms used to search through massive amounts of information on candidates allow for creating a shortlist of qualified candidates/ employees from which a business can choose from, greatly cutting down on time spent sifting through resumes or searching for applicants. The automation of certain aspects of the recruiting process (i.e. scheduling interviews, communicating with candidates, background-checking candidates, onboarding candidates) allows for an efficient and uniform approach to the entire recruiting process.

Artificial intelligence and automation can help alleviate some of the major challenges facing software development organizations today, including turnover rates that are too high, skills that do not match jobs, and job candidates that are hired based on unconscious bias. By utilizing data-driven insights and objective criteria for employee evaluation, organizations may improve their ability to hire quality employees while incorporating fairness and diversity into their operations. While many organizations benefit from the implementation of such practices, there are still significant issues regarding data privacy, ethical use of artificial intelligence systems, algorithmic bias, and the potential loss of human judgement.

For this reason, an understanding of how AI/Automation works in the HR Recruitment & Selection Process and the effects of automation & AI on the HR Recruitment & Selection Process of the Software Industry is important for Human Resource (HR) Practitioners in the Software Industry, as well as those in leadership positions in Software Businesses. The goal of this research is to examine the transformation of the HR Recruitment & Selection Process through the use of AI/Automation, identify both the advantages and disadvantages of using AI for these processes and emphasize the value of combining technology with human talent as a means of enabling the most effective, ethical and sustainable means for acquiring talent within the digital economy.

OBJECTIVES

- To better understand AI concepts utilized during the recruitment/selection phases.
- To determine the effectiveness of AI during screening and short-listing processes.
- To evaluate the benefits of utilizing AI in reducing recruitment time and costs associated with finding new employees.
- To investigate possible impacts of AI on hiring quality and on making subjective decisions about candidates.
- To survey the attitudes of HR professionals toward various ways in which they are currently able to use AI.
- To identify obstacles faced by HR professionals regarding the implementation of AI technologies during the recruitment and selection processes.
- To work toward creating better methodologies that support the successful use of AI technologies in recruitment and selection processes.

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
GENDER OF THE RESPONDENTS *SELECTION CRITERIA	121	100.0%	0	.0%	121	100.0%

NEED OF THE STUDY

• The rapid change in the recruitment and selection process is driven by the advances in Artificial Intelligence (AI) and the ability to use AI to automate certain administrative functions, such as reviewing resumes and scheduling interviews. This has provided businesses a way to decrease the amount spent on non-productive employees while enabling HR to focus on strategic functions as opposed to tactical activities.

• Traditional Human Resource Recruitment Methods includes a large amount of discrimination and other inefficiencies that have been attributed to human biases. The introduction of AI recruitment technology provides an organization the ability to improve the effectiveness of reviewing candidates and to improve the objectivity of assessing candidates.

• Many companies are now receiving and processing job applications through an online process, creating a challenge for companies in dealing with the volume of information received from job applicants. AI recruitment technologies are playing a significant role in assisting organizations in providing an effective means for dealing with large quantities of job applicant information.

• Predictive analysis, machine learning algorithms, and chatbot technology allow for increased degrees of personalization, communication, and engagement throughout the recruitment process.

• Recruitment AI provides organizations with a means of reducing the administrative burden associated with managing the recruitment and selection process.

LITERATURE REVIEW

Variation calc can utilize AI & improve efficiency in recruiting New Employees Calc Variation finds that automating much of the recruiting process with AI takes quality Candidates and makes them more effective, reducing Costs. Additionally, AI creates a less biased and Accurate hiring Decisions than Human Based Processes through Objective Candidates Data Assessments. Conversely, other Recent Literature documents how AI Platforms like Chat Bots enhance Candidate Experience, keep candidates Up to date throughout the Hiring Process, and provide a more Tailored Candidate Experience than Traditional Recruiting Methods. On the other side, Many Studies emphasize AI in Hiring still has areas needing Improved - Data Privacy, Ethical Concerns, Algorithmic Biases, and Transparency Issues. Human Resources professionals have seen the Benefits of implementing AI; however, there is a need for continued Education in the Implementation of AI Processes and overcoming resistance to Change. Overall, The Literature identifies the Significant Advantages for the Recruitment & Selection Process in Using AI, but additional Research is Necessary on both the Ethical Use and Effects over Time of AI Hiring Processes.

RESEARCH METHODOLOGY

The process of researching involves studying a topic to get enough information to develop an understanding of that topic. The methodology used when conducting research is called research methodology. Research methodology can be thought of as the study of the science of conducting scientific research. Research methodology is comprised of the overall research design, sampling strategies, data collection techniques, and data analysis strategies.

RESEARCH DESIGN

A research plan outlines the methods that researchers use to produce data that is adequate, precise, objective, and clear. It also states the methods that were not adequately planned to answer the research question(s).

The descriptive research type of project aims at identifying an event's characteristics rather than the underlying causes of that event. Thus, when performing this type of research, the researcher must take extra care not to affect the way the object or phenomenon is observed and recorded since this will cause it to produce different results.

USED DATA COLLECTING TOOLS

Survey results were compiled and analyzed through the previously mentioned statistical methodology and reached through that analysis, developed conclusions and observations representing the analysis process.

The following list includes all tools used in the analysis:

1. Chi-Square Test

Used for hypothesis testing, the Chi-square test compares the distribution of categorical variables against that expected distribution (if no relationship exists) to see if there's a relationship between them (independence versus association). Chi-square tests are often used in questionnaire-based research and studies that use qualitative data (nominal/ordinal scales). Chi-square tests can also help answer questions about whether qualitative variables are dependent on one another (relationship) or independent (not related).

2. Correlation Analysis

Correlation analysis is a statistical method to identify a relationship between two variables. Correlation analysis shows how strong (and in what direction) the relationship exists between the two variables. It indicates if there are significant changes in either variable when a change occurs in the other variable.

CHI-SQUARE ANALYSIS

RELATIONSHIP BETWEEN GENDER OF THE RESPONDENTS AND SELECTION CRITERIA

HYPOTHESIS TESTING

Null hypothesis (Ho):

There is no significant relationship between gender of the respondents and selection criteria.

Alternative hypothesis (H1):

There is some significant relationship between gender of the respondents and selection criteria.

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Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
GENDER OF THE RESPONDENTS *SELECTION CRITERIA	121	100.0%	0	.0%	121	100.0%

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.170[a]	13	.435
Likelihood Ratio	15.819	13	.259
Linear-by-Linear Association	.436	1	.509
N of Valid Cases	121		
a. 18 cells (64.3%) have expected count less than 5. The minimum expected count is .37.			

INTERPRETATION:
The table above indicates that a value of P is equal to 0.435, which means it is not statistically significant at the 5% (0.05) level. Additionally, the minimum expected count was determined to be 0.37. Therefore, we would accept the null hypothesis and state that there were no differences found in the selection criteria based on the gender of the respondents.

CORRELATION ANALYSIS
RELATIONSHIP BETWEEN AGE OF THE RESPONDENTS AND ASSESSMENT METHODS

Correlations			
		AGE OF THE RESPONDENTS	ASSESSMENT METHODS
AGE OF THE RESPONDENTS	Pearson Correlation	1	.071
	Sig. (2-tailed)		.437
	N	121	121
ASSESSMENT METHODS	Pearson Correlation	.071	1
	Sig. (2-tailed)	.437	
	N	121	121

INTERPRETATION:
The data provided shows that the correlation coefficient between the age of respondents and assessment methods is 0.071 from a total population of 121 respondents. This indicates that Age is positively correlated to Assessment Methods.

AVONA TEST
Table II, an Analysis of Variance (ANOVA) test has been performed to determine whether there is a statistical difference between the recruitment channels used by people with various levels of education.
The null hypothesis (Ho) states that there is no significant difference between educational qualifications and the recruitment channels used to obtain employment.
The alternative hypothesis (H1), on the other hand, claims there will be a statistically significant difference between educational qualifications and the recruitment channels used.

ANOVA					
RECRUITMENT CHANNELS					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.238	4	.310	1.020	.400
Within Groups	35.207	116	.304		
Total	36.446	120			

INTERPRETATION
It can be seen from the table that educational level(s) of respondents and channels for recruitment between groups and the recruitment channel have a value of 1.020 and significance value of approximately 0.400 while the total between-group variance is at 1.238 and the total within-group variance is at 35.207 overall, the total between-group variance is greater than the total variance. Therefore, based on the results, the value is greater than 0.05 which means that the significant percentage must be greater than 0.95 and therefore the Null Hypothesis is supported which leads to the conclusion that there was no significant association between Educational Level(s) of Respondents and Recruitment Channels.

SUGGESTION
The recruitment effort will use the Internet's many tools, including employment websites and online virtual exchanges, along with many social networking sites, to obtain a larger pool of qualified candidates, thus increasing our exposure to potential employees. Building a strong relationship with numerous recruiting agencies, supported through on-going performance reviews, will help ensure a steady flow of qualified

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candidates. Recruitment efforts will be based on thoroughly constructed experience and job descriptions that align with the actual needs of the company; therefore, recruitment will take a thorough and defined approach, and an individual candidate's skills (technical assessment) and abilities will be continuously assessed to establish a systematic and impartial means of assessing the competency, character, and cultural fit of each candidate. All phases of the overall recruitment process will be aimed at minimising time and providing timely and constructive feedback on issues of diversity, inclusion, and flexibility to all candidates in accordance with the company's needs of the future.

CONCLUSION

Recruiting and selecting candidates is one of the most important tasks of an organization to ensure its success and growth. Good recruiting systems recruit candidates based on their ability to perform, while effective and organized systems select the "best fit" candidates to meet the organization's human resource needs. Based on observations of recruiting and selection systems, many organizations have established organized, effective and economical processes for recruiting, selecting and retaining their employees which have helped them achieve success. Also, based on employee satisfaction surveys it shows that employees are satisfied with recruiting and selection processes at work. To achieve the best results from these systems it is important to focus on continuous improvement, performing better, and providing training for those involved in recruiting and selecting candidates. This will ultimately lead to an increase in employee satisfaction and greater organizational success.

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