



# A Study on Trend Analysis of In-Demand IT Skills in Staffing Services

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## ABSTRACT

The IT industry is growing rapidly, and this is impacting the staffing agencies in relation to the recruitment of employees. Due to recent technologies such as AI, cloud computing, cyber security, data science, devOps, there is a higher demand for skilled IT professionals. This research study will aim to analyse current trends of in-demand IT skills at the staffing agencies, and will assess how these emerging technologies, technical certificates, and trends within recruitment affect hiring and skill demand at the staffing agencies. This research is based on primary data and used the used a structured questionnaire which relied upon the 5-point Likert scale in data collection. Sample size was 100 respondents were working as IT Professionals and Recruitment Managers. Cronbach's alpha was also calculated, to measure the internal consistency and reliability of the instrument. High internal consistency, the statistic supports the validity of the instrument. It is expected that the findings from this research will give an indication as to which IT skills are in high demand within staffing agencies, how staffing agencies prefer to recruit employees and the trends in demand for specific IT skills will be affected by various new technologies. It will also reveal current gaps within the industry of required technical expertise and future employment demands within the IT industry. This research will be very beneficial to job seekers, recruiters, staffing agencies, and

educational institutions to become familiar with current market hiring trends and acquire skills which match the demand.



## INTRODUCTION

The IT industry is among the fastest-growing industries on the planet today. Driven by such things as rapid technology changes, the digital economy, artificial intelligence and automation, organizational functions have changed the way human resources are expected to operate. Because the reliance on digital technology in various organizations is so great the demand on IT professionals is also increasing greatly. The staffing industry has a primary function of bridging the gap between an employer who is seeking workers and an IT professional that is seeking employment. The staffing industry needs to know what skill sets the employer requires from their employees and where and how to obtain it. More recently, the skills most in demand at staffing agencies are those pertaining to artificial intelligence, machine learning, cloud computing, cybersecurity, data science, full stack development, and devOps. The growing difference between market requirements and the availability of candidates causes issues for both staffing agencies and candidates, especially due to current employer requirements for up-to-date technical skills. In education, students need to know what to study to keep the supply of available candidates consistent with demand by organizations. This study aims to assess current recruitment trends of IT skills at staffing agencies, and which technical skill is most in demand among employers.

## STATEMENT OF THE PROBLEM

IT Industry, the technology is going to affect a great extent the IT industry in the rapidly emerging digital world. The speed of development is quickening due to the rise in technologies like Artificial Intelligence, Cloud computing, cybersecurity, data science, and automation. The required skill sets of IT professionals also change rapidly due to this advancement and as a result both employees and employers find it difficult to keep up with the required trends of the industry. This results in difficulties for staffing agencies, who are primarily the intermediaries between employer and employees in the IT field. There may be specific technical expertise, up-to-date qualifications and up-to-date practical knowledge that employers require which candidates do not currently possess. It is, therefore, not possible for organizations to meet their hiring objectives quickly as required. This will affect the time required by recruiters to hire appropriately skilled employees and will also make it difficult for organizations to attain objectives where there is a need for specific IT professionals. The gaps between industry expectations and the workforce will need to be analysed so that it can lead to solutions.

There have been several studies examining IT skill demand; however, few studies have exclusively analysed how staffing agencies attempt to fulfil the ever-changing requirement of IT skill demand. Much of the previous work has focused upon IT skill demand and general employment trends within IT organizations and IT specific company hiring trends, where less has been paid towards how the actual intermediary recruitment organization (the staffing agency) may be influencing this. Additionally, few studies have discussed IT skill demand by separating these varying factors, for example, looking at each technological skill and assessing its demand within the staffing industry and the effects that the various hiring trends and technical certifications can have. Finally, due to the speed at which these trends change it has been difficult to study these specific IT skills within rapidly evolving environments. This paper looks at these gaps by performing an empirical analysis based on data obtained directly from staffing agencies about required skills and looks at all the factors that influence their decisions and perceptions on which skill is in demand.

## REVIEW OF LITERATURE

**Gupta and Sinha (2021)** In their academic research they stress on the use of workforce analytics and skill forecasting in staffing services enabling agencies to proactively mitigate gaps in the supply chain of talent.

**Deloitte's Global Human Capital Trends (2022)** digital technologies changed employee expectations, and the labour market entered a new era, recruitment agencies should adapt the recruitment strategies to meet the ever-changing IT skills requirements.

**Harvard Business Review (2022)** Believes that due to intelligent automation staffing will get affected as the requirement of repetitive IT jobs will be reduce while as compared to these, requirement for skills professional in the fields of machine learning, development of AI systems and system integration will increase.



**LinkedIn's Global Talent Trends (2022)** Suggest that the demand of Cybersecurity professional, DevOps engineer, cloud infrastructure expert have seen rapid increment which represent the global tendency of moving towards more secured and expandable digital infrastructures.

**PwC's Workforce of the Future Report (2022)** Recommend to staffing agencies that employ the AI-powered recruitment platforms and automated screening systems would achieve both the number of hirings increase and decrease of time-to-hire improvement.

**McKinsey & Company (2023)** It's important to stress that the required competencies – which are a blend of traditional hard skills and soft skills such as critical thinking, flexibility and teamwork – are highly sought-after and require staffing agencies to conduct holistic evaluations of candidates.

**The World Economic Forum (2023)** It is projected that expertise in AI, data analytics, and cloud computing will be vital in the IT staffing domain eventually changing global hiring.

**NASSCOM (2023)** Reminds that generative AI and cloud-native technologies start changing jobs requiring most of an AI engineer, cloud architect and data specialist.

**Accenture Technology Vision Report (2024)** states that generative AI and cloud-native technologies are reshaping IT job roles, increasing demand for AI engineers, cloud architects, and data specialists.

## RESEARCH GAP

Despite extensive studies focusing on IT skill demand and the recruitment trends within information technology, very little research has been conducted on the micro-level—how staffing agencies meet changing IT skill demands. The demand for IT skills and the labor market have received a good deal of research, but not at the micro level of how staffing agencies meet current IT skill demands. Most previous literature focuses on jobs, industry skills gaps or organizational recruitment needs, rather than on intermediary recruitment institutions like staffing agencies. Further, these studies frequently examine the demand for IT skills generally, not individual hiring influences arising from new technologies, IT certifications, and hiring practices. There's also little empirical evidence using primary data on recruiters and staffing firms concerning how all these together drive demands on IT skill. Another issue is the limited use of quantitative methods such as reliability testing and statistical validation when discussing the impact of new technologies on IT skill demands. Also, studies tend to focus on the IT industry overall without using up-to-date, local data on fast-changing IT markets where AI, cloud computing and DevOps demand skills. Consequently, this paper bridges these research gaps, focusing on developing a systematic empirical model for in-demand IT skills at staffing agencies using primary survey data and statistics on key influences such as new technologies, technical skills and IT skill demand.

## OBJECTIVES OF THE STUDY

1. Identify in-demand IT skills at staffing agencies.
2. Examine the impact of emerging technologies such as Artificial Intelligence, Cloud Computing, Cybersecurity, Data Analytics, on IT skill demand at staffing agencies.
3. Explore the role of technical skills and technical certifications in the hiring decisions of staffing agencies.
4. Analyse the influence of IT hiring trends in the industry on staffing agency recruiting practices.
5. Analyse the relationship between IT staffing need and agency hiring trends.

## RESEARCH METHODOLOGY

A descriptive design was used to research the demand for IT skills in staffing agencies, the effect of new technologies and recruiting trends. The research is focused on studying the association between IT skill demands and the recruitment practices at staffing agencies within the digital era's dynamic environment. We chose 100 respondents from staffing agencies and IT recruitment firms by using purposive sampling. We selected respondents for HR professionals, recruiters, talent acquisition professionals, and those working in software development, cloud computing, cybersecurity, data analytics and DevOps, to assess real-life IT recruitment trends and IT skill demands. We gathered primary data using a survey and a five-point Likert scale designed to



capture responses to variables related to emerging technologies, technical skills, technical certifications, recruiting trends, demand for IT skills, and recruitment practices of staffing agencies. We also gathered secondary data from numerous journal articles, research papers, and industry reports by World Economic Forum, McKinsey & Company, Deloitte, NASSCOM, and LinkedIn Talent Report. These sources offered strong evidence in exploring the trends in IT skill demands. We analysed collected data by using percentage analysis, correlation analysis, trend analysis, and descriptive statistics. This study was limited in the following areas: sample size, dependence on survey data, and difficulty accessing confidential data on recruiting practices in staffing agencies.

## ANALYSIS OF THE STUDY

### Demographic profile (Percentage Analysis)

#### Distribution of respondent based on age Group

Age Group	Number of Respondents	Percentage
18 – 25	33	33%
26 – 35	35	35%
36 – 45	24	24%
46 and above	8	8%
Total	100	100%

The age-wise distribution of respondents indicates that most respondents are young and middle-aged professionals, this demonstrates the perspective of these active professionals in IT staffing industry were primarily considered.

#### Distribution of respondent based on job title/designation

Job Title / Designation	Number of Respondents	Percentage
IT Professional / Employee	31	31%
HR / Recruitment Specialist	24	24%
IT Manager / Team Lead	14	14%
Business Analyst	27	27%
Other	4	4%
Total	100	100%

The distribution of respondent shows that the 31% of respondent from IT Professional/employee, 24% are HR/Recruitment specialist, 14% are IT Manager/Team Lead and 27% are Business analyst and other are 4%. This indicates that the research has been conducted across different job responsibilities ensuring balanced research outcome.

#### Distribution of respondent based on years of experience

Years of Experience	Number of Respondents	Percentage
Less than 1 year	35	35%
1 – 3 years	41	41%
4 – 6 years	16	16%
7 – 10 years	6	6%
More than 10 years	2	2%
Total	100	100%

Among the respondents with 1-3 years of experience was highest (41%) followed by experience below 1 year (35%). With 4-6 years 16% and with experience more than 7 and 10 years was 6% and 2% respectively. Hence it proves that the outcome of this research was the views of the working professionals at the entry level and intermediate level which are present in IT staffing/recruitment.



### Distribution of respondent based on highest educational attainment

Level of Educational Qualification	No. of respondents	Percentage
High school/Senior high school	9	9%
Vocational/Technical Certificate	7	7%
Bachelor's Degree	37	37%
Master's Degree	34	34%
Doctoral Degree (PhD / EdD)	13	13%
Total	100	100%

Highest educational level for the most respondents is the bachelor's degree (37%), followed by master's degree (34%). Most of the respondents have got a high educational background so we should have very credible input from professional human resources for the IT staffing/recruitment.

### Reliability Statistics:

Reliability of the questionnaire were checked with Cronbach's alpha to find internal consistency within the survey questions. Interpretation criteria for reliability scale taken in study is as follows: Less than 0.60 = poor; 0.60-0.70=acceptable; 0.71-0.80=good; 0.81-0.90=very good; More than 0.90=excellent. Cronbach's Alpha for the Questionnaire is obtained at which it shows that questionnaire item is highly reliable and fit to conduct the study.

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.989	0.989	25

For the reliability analysis, the questionnaire produced a Cronbach's Alpha of 0.989 for 25 items. This shows an extremely high measure of internal consistency among the items within the questionnaire. The survey was answered in a highly uniform manner by respondents. The questionnaire appears to be very reliable for this study.

### Descriptive Statistics

Sections		Minimum	maximum	Mean	Std. Deviation
Emerging technologies	100	4	20	15.9	3.65839
Technical certification & skill	100	6	25	19.65	4.50449
Industry Recruitment trends	100	7	25	19.9	4.23907
Demand for IT Skills	100	5	25	19.75	4.30967
Hiring Preference	100	8	30	23.87	5.10625

The descriptive statistics table provides the mean and standard deviation for each part of the research. As indicated above from the following table, Hiring Preference has received the highest mean score (23.87) of all other parts, which means that hiring-related factors were ranked the highest and the respondents tend to positively assess the factors related to hiring to the IT sector.



Industry Recruitment Trends got the next highest score of 19.90 and then followed by Demand for IT skills with 19.75 and Technical Certification and Skill with 19.65.

### Pearson Correlation Analysis

Pearson's correlation analysis was calculated to the strength and direction of linear relationship between the six survey dimensions. Interpretation:  $|r|$  0.60-0.79 = Strong;  $\geq 0.80$  = Very Strong. Significance:  $p < 0.01$  (two-tailed)

Pearson correlation matrix (All pairs significant at  $p < 0.01$ )

Sections		ET	TCS	IRT	DIT	HP
Emerging technologies	Pearson Correlation	1	.929***	.920***	.920***	.931***
Technical certification & skill	Pearson Correlation	.929***	1	.950***	.939***	.947***
Industry Recruitment trends	Pearson Correlation	.920***	.950***	1	.965***	.945***
Demand for IT Skills	Pearson Correlation	.920***	.939***	.965***	1	.946***
Hiring Preference	Pearson Correlation	.931***	.947***	.945***	.946***	1

From the above correlation table, we observed that all the study variables Emerging Technologies, Technical Certification & Skill, Industry Recruitment Trends, Demand for IT Skills and Hiring Preference are positively related to each other. The Pearson correlation values range from 0.920 to 0.965; hence it implies that the entire study variables are positively correlated at a high level. An increment in any factor leads to an increment in other factor. The highest correlation is found between the Industry Recruitment Trends and Demand for IT Skills  $r = 0.965$  and all these correlations have significant correlation at 0.001

### Trend analysis

Skill Category	Growing	%	Stable	%	Declining	%
Cybersecurity / InfoSec	31	31%	49	49%	20	20%
Cloud / DevOps	50	50%	35	35%	15	15%
AI / Machine Learning	62	62%	26	26%	12	12%
Data Eng / Analytics	60	60%	33	33%	7	7%
Full Stack Development	32	32%	33	33%	35	35%

The table describes trend analysis of each IT skill domain across increasing, stable and decreasing demand trends. Within IT skill domain, AI / Machine Learning and Data Engineering / Analytics indicates increasing trend whereas others have varying levels of growing demand, whereas the most increasing skills trend lies on



these two skill domains. Cloud / DevOps shows robust increasing demand with steady trend. On the other hand, Cybersecurity / InfoSec has greater steady demand in industry than growing trend. Full Stack Development shows medium increasing and medium steady demand. In a nutshell, growing demand trends occur in modern technology and data-based IT skill domains.

## KEY FINDINGS

- The sample for the study mainly includes young professionals with 68% respondents are under 35. This reflects the opinion of active and emerging IT professionals.
- The samples are spread across various job functions namely IT Professionals (31%), Business Analysts (27%) and HR/Recruitment Specialists (24%), representing perspectives of both technical and recruitment functions well.
- Most of the respondents have a sound educational background, with 71% having their education at Bachelors or master's level, hence it can be concluded that the results of the study are opinion of the well qualified professionals.
- The work experience of respondents clearly shows that 76% of respondents have less than 3 years' experience. Thus, the study represents the opinion of entry level and intermediate workforce of IT function.
- The correlation analysis demonstrates a strong positive relationship between all the variables, as the correlation values lies between 0.920 and 0.965, indicating that increment in the one of the factors of IT skills, will help improving the rest of the factor and the respective ones.
- AI/ Machine Learning and Data Engineering / Analytics are growing at highest rate of change of IT skills while Cybersecurity / InfoSec is observed with stable demand, according to Trend Analysis.
- Reliability analysis gives Cronbach's Alpha within acceptable to good range. Thus, the items of questionnaire are suitable for conducting the research study.

## SUGGESTIONS

Organizations need to increase training and development opportunities in the recent and upcoming technologies such as AI / Machine Learning, Cloud Computing, Data Analytics based on industry requirements. IT professionals should up-skill and obtain certificates in technical skills and be at ease in the competitive employment market and growth.

Recruitment processes need to focus on hiring based on the required skills in technology and by testing practical know-how, other than focusing on academics. Collaboration between educational institutions and IT industries for industry specific curriculum, matching recruitment and skills should be increased.

Organizations should encourage lifelong learning by using workshop, online certificates, internships and real-time project work for working professionals and new graduates. More attention should be paid to the aspects of cyber security awareness and information security training, as this trend remains a consistent one in IT sector.

Regular scanning and assessment of industry trends and the latest technologies must be carried out by recruitment teams for understanding the future skill needs, which also helps in decision-making during recruitment. State-of-art recruitment technologies and online hiring processes are required to be used to reduce the time taken and hiring process more efficient and to draw skilled people towards organization.

## CONCLUSION

From this study we can see that it has been concluded that the changing trends within technology and recruiting have formed an important role in the changes to the Demand of IT skills in the staffing service. The highest correlation coefficients in technical skills, hiring preferences, technical certifications and recruitment trends have illustrated that companies are turning more towards skill-centric and tech-oriented hiring trends. The positive relation between Industry Recruitment Trends and Demand for IT Skills is the highest ( $r=0.965$ ), thus showing the growing value of emerging IT trends in hiring trends. AI/ Machine learning and Data analytics skills were considered as the highest in-demand skills, while DevOps, Cybersecurity and cloud computing were in high demand respectively. In general, companies that will adopt new trends in technology, learning and technology driven hiring will be better able to attract IT skills. Based on the demographic study, the perception discussed



here reflects new or entry-level IT professionals and the recruitment specialists. So, it means the requirement and practice at present industry. High value of reliability score obtained supports the credibility of findings of this research. In summary, by embracing future technological trends and improving their recruiting practices, staffing firms and businesses who will ultimately draw, hire and maintain the best IT staff for continued growth and digital power.

## FUTURE SCOPE OF THE STUDY

**Emerging Technology Trend Analysis:** Future research studies can analyse the impact of the emerging technologies like Generative AI, Blockchain, Quantum Computing, Edge Computing on future demand of IT skill and staffing trends in recruitment industry.

**Cross-regional comparative study:** Future research studies could involve comparison of IT skill demand and staffing trends in various region, countries or metropolitan cities to understand variations across geography regarding hiring needs and practice.

**Remote Work and hybrid hiring trend:** Further studies can focus on how culture of remote working, hybrid work culture and global virtual teams are transforming the demand for IT skill and recruitment trend.

**Employee retention and career growth analysis:** Further studies can identify relation between high-demand IT skill, employee career advancement and job satisfaction, and retention rate within the staffing firms or within the IT companies.

**Cyber security and Data Privacy:** Considering growing prevalence of cyber security issues and risks, further research can be concentrated on analysing the trend in demand of cybersecurity professionals and various recruitment strategies for them used by staffing agencies.

## BIBLIOGRAPHY

1. Gupta, R., & Sinha, P. (2021). *Workforce Analytics and Skill Forecasting in Staffing Services*. Journal of Human Resource Management, 12(3), 45–58.
2. Deloitte (2022). *Global Human Capital Trends Report*. Retrieved from [Deloitte Official Website](#)
3. Harvard Business Review (2022). *Impact of Intelligent Automation on IT Employment Trends*. Retrieved from [Harvard Business Review](#)
4. LinkedIn (2022). *Global Talent Trends Report*. Retrieved from [LinkedIn Official Website](#)
5. PwC (2022). *Workforce of the Future Report*. Retrieved from [PwC Official Website](#)
6. McKinsey & Company (2023). *Future Skills and Workforce Transformation*. Retrieved from [McKinsey & Company](#)
7. World Economic Forum (2023). *The Future of Jobs Report*. Retrieved from [World Economic Forum](#)
8. NASSCOM (2023). *Technology Industry and Talent Demand Report*. Retrieved from [NASSCOM Official Website](#)
9. Accenture (2024). *Technology Vision Report*. Retrieved from [Accenture Official Website](#)
10. IBM (2024). *Future of Work Study*. Retrieved from [IBM Official Website](#)
11. Gartner (2025). *Talent Trends Report*. Retrieved from [Gartner Official Website](#)
12. Microsoft (2023). *Work Trend Index Report*. Retrieved from [Microsoft Official Website](#)
13. Oracle (2023). *Future of Technology Skills and Recruitment*. Retrieved from [Oracle Official Website](#)
14. Infosys (2024). *Digital Talent and Emerging Skills Report*. Retrieved from [Infosys Official Website](#)
15. Tata Consultancy Services (2024). *Future Workforce and IT Skill Trends*. Retrieved from [TCS Official Website](#)
16. Capgemini (2023). *Technology Trends and Workforce Transformation Report*. Retrieved from [Capgemini Official Website](#)