iJRASET
International Journal For Research in Applied Science and Engineering Technology

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 11 **Issue:** XI **Month of publication:** November 2023

DOI: https://doi.org/10.22214/ijraset.2023.56441

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 11 Issue XI Nov 2023- Available at www.ijraset.com

Virtual Training: Empowering Information Technology Professionals with Enhanced Skills

Anindya Saha[1], Dr. Amitava Ghosh[2]
[1]*Research Scholar, Seacom Skills University, W.B.*
Assistant Professor, Army Institute of Management, Kolkata
[2]*Adjunct Faculty Member & PhD Supervisor, Department of Management*
Seacom Skills University, Kendradangal, Birbhum, West Bengal – 731236

Abstract: ***In an era defined by technological advancements, virtual training stands out as a transformative educational method, diverging from traditional classroom settings. Its innovative use of technology provides engaging, cost-effective learning opportunities for remote students, professionals seeking to enhance their skills, and organizations aiming to modernize training initiatives. By seamlessly integrating multimedia, self-paced modules, and collaborative tools, virtual training equips learners with the knowledge and competencies required to excel in their respective fields. Overcoming geographical boundaries, it facilitates global access and supports continuous learning in an ever-changing world. The adaptability, scalability, and data-driven insights of virtual training make it an indispensable tool for individuals and organizations, nurturing skill development, knowledge retention, and proficiency enhancement. The adoption of virtual training has surged in recent years due to its cost-effectiveness and flexibility, especially in the fast-paced realm of the information technology (IT) sector. IT professionals must continuously update their skills to keep up with rapidly evolving technologies, making virtual training a practical solution to address workforce education needs. This research aims to assess the effectiveness of virtual training among IT sector employees, focusing on IT professionals who have participated in virtual training programs. The study gathers data from a sample of 200 employees working in IT companies in Kolkata and utilizes the Pearson correlation methodology to evaluate various variables across different data series. The study's findings reveal that IT sector employees generally hold positive attitudes and perceptions about virtual training. Furthermore, the research concludes that the efficacy of virtual training positively impacts areas such as communication improvement, accelerated knowledge dissemination, promotion of collaborative teamwork, career progression, and professional development.***

Keywords: Virtual training, Correlation, Communication, Job performance, IT sector, Skill enhancement.

I. INTRODUCTION

In the contemporary landscape, the evolution of data technology has ushered in a transformative and pivotal shift in the realm of virtual training. The exponential surge in the demand for training within IT companies has matured into a paradigm where employees now partake in immersive virtual training experiences, supplanting conventional brick-and-mortar sessions, as emphasized by Ramayah (2012). Over recent years, the allure of virtual training has surged significantly, primarily owing to its cost-effectiveness and inherent flexibility, rendering it the preferred alternative to traditional classroom instruction. Within the dynamic information technology (IT) sector, where skill enhancement remains a perpetual necessity in the face of swiftly evolving technologies, virtual training emerges as a pragmatic solution to address the training needs of employees, echoing the sentiments of Kumar and Sharma (2021). Given the relentless pace of technological innovation in IT companies, the continuous acquisition of knowledge is vital for survival and growth within the domain and emerging fields. Training, being of paramount importance, forms the bedrock of efficiency and innovation, enhancing the skill set of IT professionals. These employees are not only consumers but also creators of online training tools for their companies. The global accessibility and reach of virtual training have cemented its status as the preferred mode of learning, breaking down geographical barriers and making learning accessible with a simple click over the internet, echoing the findings of Ellis and Kuznia (2014).

The advent of knowledge technology has triggered an evolutionary shift in the current landscape of virtual training. The burgeoning demand for corporate training has given rise to simulated virtual training as a practical substitute for conventional in-person instruction. For more than a decade, businesses have harnessed technology to enhance their daily operations, with a keen focus on delivering training to their workforce.

This technological approach affords organizations a slew of advantages, including cost savings related to travel expenses and training time, the flexibility of instructional delivery, access to a vast reservoir of content, the perpetual utilization of corporate resources, and the bolstering of employee productivity. Training, at its core, aims to equip employees with the competence to excel in their roles and execute their assigned tasks adeptly. Consequently, participation in training is virtually ubiquitous in the corporate world, serving as a lifeline for professional growth and survival. Virtual training, despite its unique challenges, presents a remarkable avenue for employees to hone their skills. It offers a seamless, flexible, and technologically innovative approach to improving the learning process. The realization of the full potential of virtual training hinges on one's grasp of this training mode and its myriad potential benefits, whether in the capacity of a designer, facilitator, or participant in a virtual training session.

II. SIGNIFICANCE OF THE STUDY

In the dynamic landscape of modern production systems, where human resources serve as the most adaptable and pivotal component, the imperative lies in continually equipping the workforce with the latest knowledge and skills essential for navigating ever-evolving technological advancements. To meet this demand, there is a pressing need for innovative knowledge delivery and skill transfer strategies. Staying abreast of cutting-edge innovations necessitates a forward-looking training program, and virtual training emerges as a promising solution in addressing the challenges posed by the rapid pace of technological evolution. Recognizing the manifold advantages that training brings, both for individual employees and the organization as a whole, is of paramount importance. Training not only fosters greater employee engagement, confidence, and mutual support but also bolsters morale, translating into improved performance. Moreover, employees reap the rewards of enhanced personal, professional, and occupational knowledge. Tailored training programs, attuned to individual needs, foster increased commitment to achieving performance objectives, cultivate strong bonds with the organization, and extend employee tenure. The significance of virtual training initiatives reverberates across all sectors, particularly in the realm of manufacturing, where training practices wield the power to elevate service levels, compelling organizations to assess the cost-effectiveness and impact of their training endeavors. In the information technology (IT) sector and other industries, where efficiency and adaptability are paramount, training has transcended its traditional focus on skill development to become an integral component of strategic planning and company growth. Hence, this research is aptly titled "THE EFFICACY OF VIRTUAL TRAINING FOR INFORMATION TECHNOLOGY SECTOR PROFESSIONALS," encapsulating the pivotal role of virtual training in shaping the modern professional landscape.

III. REVIEW OF LITERATURE

The focal point of Yunus Kathawala and Andreas Wilgen's (2004) study centers on appraising E-Learning from an organizational standpoint. Their analysis encompassed a spectrum of benefits, ranging from cost-effectiveness and heightened productivity to personalized instruction, accelerated learning with enhanced retention, secure interaction and community cultivation, traceability, bolstered IT competencies, and the storage of content and knowledge, among other advantageous outcomes.

Henry Ongori and Jennifer Chishamiso Nzonzo's (2011) research delves into a comprehensive and critical examination of the benefits, methodologies, and assessment protocols employed in employee training and development within the corporate sphere. Their study entailed a careful selection of 61 managers representing diverse organizations. The findings unveiled a compelling insight that investing in the training and development of staff serves as a catalyst for augmenting competitiveness and bolstering overall organizational effectiveness. Ultimately, the research seeks to persuade managers from various professional backgrounds to acknowledge the pivotal significance of nurturing employee development and training within their respective organizations.

Within her research, Amita Maxwell (2012) explored the repercussions of information and communication technologies (ICT) and the advent of electronic learning, a transformational force widely recognized for reshaping the landscape of training and education. This wave of technological innovation has not only disrupted the IT sector but has also left an indelible mark on the training market. Maxwell's findings underscore the necessity for organizations to carefully evaluate the costs and advantages in their quest to adopt the most current training methodologies.

Bernard Galleries and his team's (2013) study scrutinized the utilization of two videoconferencing techniques for training: virtual video conferencing and remote videoconferencing. Their investigation focused on the perceptions, attitudes, and behaviors of 60 employees participating in live training sessions. The research revealed that virtual classes garnered higher satisfaction levels compared to remote sessions, emphasizing that virtual training was deemed significantly more valuable.

In the research conducted by Kulkarni (2013), an examination was undertaken to elucidate the role, significance, and advantages of training while highlighting its positive influence on organizational progress.

A substantial emphasis was placed on training programs aimed at aligning with the organization's overarching objectives to foster substantial enhancements in the quality of employees' professional lives. The training and development initiatives were found to play a pivotal role in elevating employee morale and positively shaping their work-related behavior and attitude. The study's results underscore that a comprehensive training and development program contributes significantly to the overall improvement of employees' work quality and job satisfaction.

This analysis underscores the advantages of virtual training, including its adaptability, cost-efficiency, and capacity to provide tailor-made training regimens. The evaluation further emphasizes the significance of incorporating interactive and captivating training materials and technologies to augment the efficacy of virtual training, as elucidated by Baldwin and Walters (2018).

According to Alotaibi's findings (2020), IT professionals typically exhibit favorable attitudes towards virtual training, largely due to the flexibility, convenience, and accessibility it offers. The analysis also underscores the significance of delivering immersive and interactive virtual training materials to boost learner motivation and engagement.

Mohamad and colleagues (2020) propose that delving deeper into the nuances of how particular commonalities and disparities influence the efficiency of online training programs necessitates a thorough exploration of various key organizational attributes (including departmental distinctions and the availability of online training resources) as well as individual employee characteristics (such as gender, age, educational background, position, and length of service). Moreover, if future research endeavors to establish causal links among the variables of interest, the adoption of longitudinal analysis could serve as a viable alternative research approach. Lastly, for a comprehensive understanding of the impact of online training content on job motivation, forthcoming studies should contemplate comparative assessments across two or more types of organizations.

In their research, Bhattacharya and Sharma (2021) pinpoint various elements, including the caliber of virtual training materials, the technology employed for delivery, the assistance rendered by instructors and fellow participants, and the level of motivation and engagement among learners. The study underscores that by addressing these factors, it is possible to enhance the overall effectiveness of virtual training for IT professionals.

IV. RESEARCH PAPER'S OBJECTIVE

To evaluate the effectiveness of virtual training for information technology sector employees.

V. METHODOLOGICAL FRAMEWORK

A. *Research Design*

In this study, the researcher utilized the descriptive survey research method to evaluate the effectiveness of virtual training for information technology sector employees.

B. *Sample Size*

Number of Respondents – 200 Employees of IT Sector

C. *Research Area*

The research area is Kolkata.

D. *Collection of Data*

1) *Primary Data:* Information was gathered from a sample of 200 employees employed in IT firms situated in Kolkata.
2) *Secondary Data:* Secondary data were acquired through the scrutiny of research papers, journals, article reviews, and other pertinent sources.

VI. DATA ANALYSIS

The data derived from surveys distributed to employees within chosen IT companies has been scrutinized and elucidated through the utilization of pie charts.

A. *Statistical Technique*

In this ongoing study, the researcher has employed straightforward analysis and Pearson correlation methods to investigate diverse facets including the effectiveness of virtual training, enhancements in communication, rapid information dissemination, team collaboration, career progression, and professional development.

VII. ANALYSIS RELATED TO THE EFFICACY OF VIRTUAL TRAINING FOR INFORMATION TECHNOLOGY SECTOR PROFESSIONALS

Table 1: In response to the question "Do you agree that virtual trainings are effective in improve your communication?"

S. No.	Components	No. of Respondents	Per cent
1	F A	64	32
2	A	77	38.5
3	N	15	7.5
4	D	27	13.5
5	F D	17	8.5
	Total	200	100

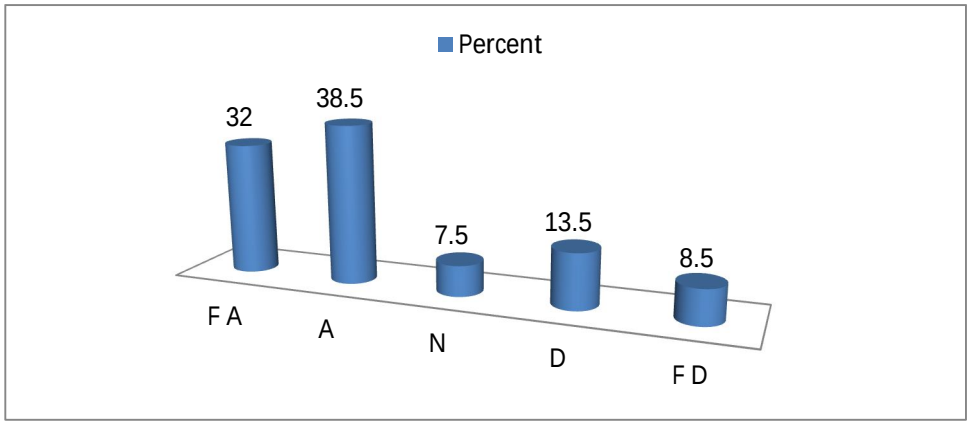


Figure 1: Rresponse on the question "Do you agree that virtual trainings are effective in improve your communication?"

- *Analysis:* Among all participants, 32% expressed complete agreement, 38.5% concurred, 7.5% maintained a neutral stance, 13.5% disagreed, and 8.5% strongly disagreed regarding the efficacy of virtual training in enhancing their communication skills.

Table 2:In response to the question "Do you agree that virtual trainings are effective in encourage team efforts?"

S. No.	Components	No. of Respondents	Per cent
1	F A	71	35.5
2	A	68	34
3	N	8	4
4	D	34	17
5	F D	19	9.5
	Total	200	100

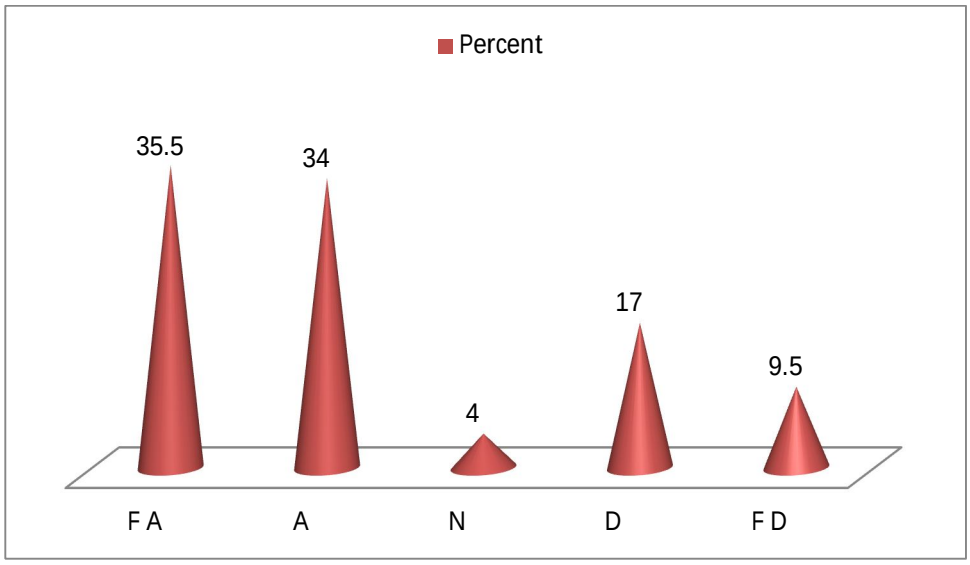


Figure 2: In response to the question "Do you agree that virtual trainings are effective in encourage team efforts?"

- *Analysis:* Among the survey participants, 35.5% expressed strong agreement, 34% agreed, a mere 4% remained neutral, 17% held opposing views, and only 9.5% vehemently disagreed regarding the effectiveness of virtual training in enhancing communication. The overwhelming consensus among respondents favored the notion that virtual training effectively promotes teamwork.

Table 3: In response to the question "Do you agree that virtual trainings are effective in provide high speed information?"

S. No.	Components	No. of Respondents	Per cent
1	F A	66	33
2	A	81	40.5
3	N	10	5
4	D	27	14.5
5	F D	14	7
	Total	200	100

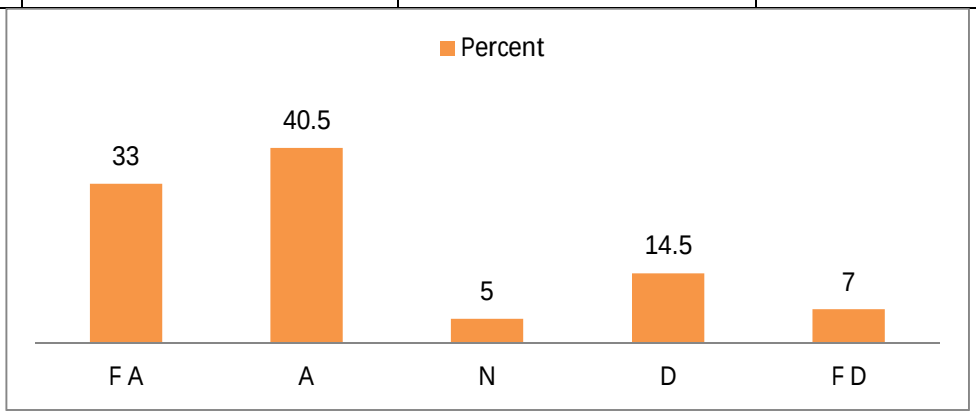


Figure 3: In response to the question "Do you agree that virtual trainings are effective in provide high speed information?"

- *Analysis:* A mere 5% of respondents remained neutral, 14.5% expressed disagreement, and only 7% vehemently disagreed regarding the effectiveness of virtual training in delivering high-speed information. In contrast, 33% expressed full agreement, and 40.5% concurred. The consensus among the majority of respondents strongly affirmed that virtual training is indeed efficacious in delivering high-speed information.

Table 4: In response to the question "Do you agree that virtual trainings are effective in progress of your career?"

S. No.	Components	No. of Respondents	Per cent
1	F A	73	36.5
2	A	87	43.5
3	N	12	6
4	D	19	9.5
5	F D	9	4.5
	Total	200	100

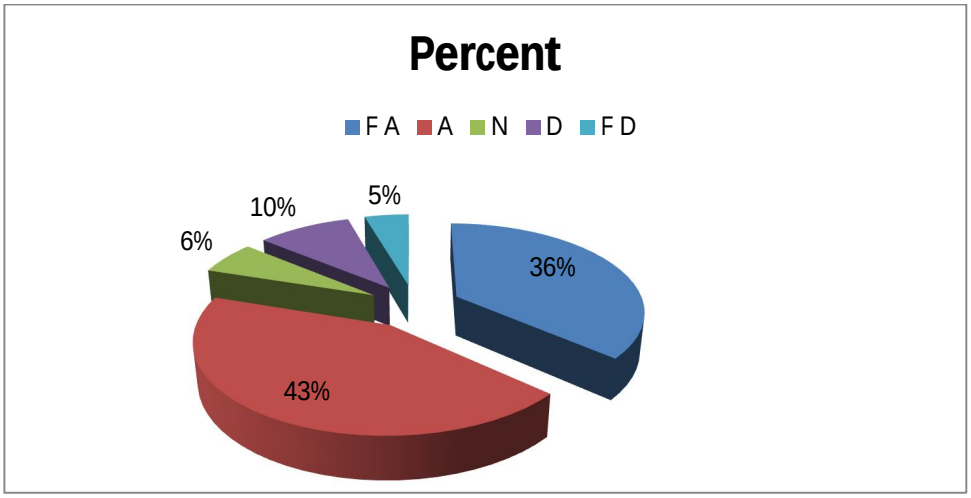


Figure 4: In response to the question "Do you agree that virtual trainings are effective in progress of your career?"

- *Analysis:* Every participant unanimously acknowledged the effectiveness of virtual training in advancing their careers, with 36.5% firmly concurring, 43.5% in agreement, 6% maintaining a neutral stance, 9.5% dissenting, and a mere 4.5% expressing strong disagreement. The overwhelming majority of respondents affirmed that they anticipate deriving significant career benefits from virtual training.

Table 5: In response to the question "Do you agree that virtual trainings are effective in your professional enrichment?"

S. No.	Components	No. of Respondents	Per cent
1	F A	63	31.5
2	A	70	35
3	N	15	7.5
4	D	35	17.5
5	F D	17	8.5
	Total	200	100

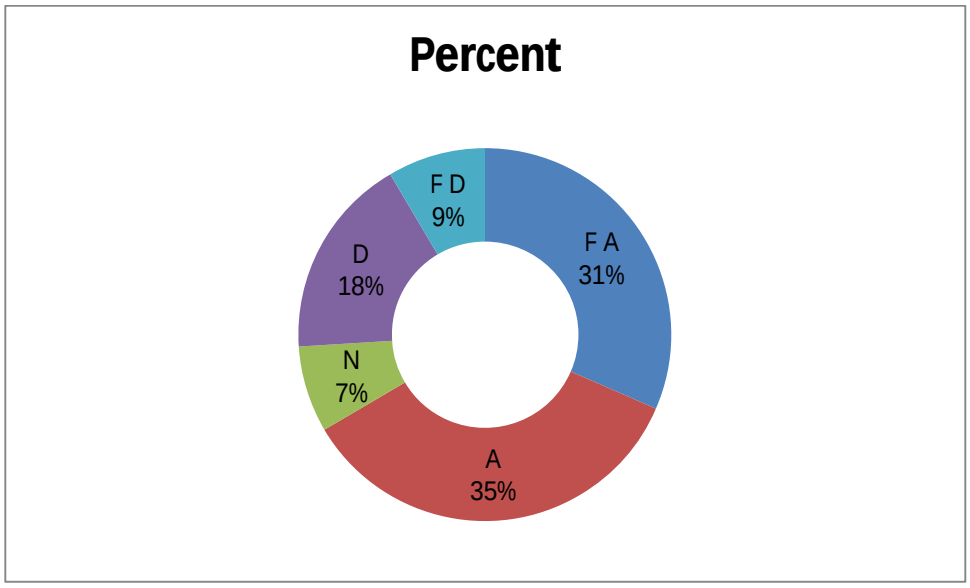


Figure 5: In response to the question "Do you agree that virtual trainings are effective in your professional enrichment?"

- *Analysis:* Of all the respondents, 31.5% expressed complete agreement, 35.5% concurred, 7.5% remained neutral, 17.5% disagreed, and only 8.5% vehemently disagreed. It is noteworthy that nearly two-thirds of the participants generally indicated a preference for virtual training as an effective means for professional enrichment.

Table 6: Correlations for all pairs of data series (method=pearson)

	A	B	C	D	E
A	1	0.964	0.998	0.996	0.987
B	0.964	1	0.972	0.951	0.985
C	0.998	0.972	1	0.989	0.994
D	0.996	0.951	0.989	1	0.975
E	0.987	0.985	0.994	0.975	1

Table 7: Correlations for all pairs of data series with p-values

Pair	Pearson r	Spearman rho	Kendall tau
a;b	0.9644	0.9	0.8
p-value	(0.008)	(0.0833)	(0.0833)
a;c	0.9978	1	1
p-value	(1e-04)	(0.0167)	(0.0167)
a;d	0.9961	0.9	0.8

p-value	(3e-04)	(0.0833)	(0.0833)
a;e	0.9868	1	1
p-value	(0.0018)	(0.0167)	(0.0167)
b;c	0.972	0.9	0.8
p-value	(0.0056)	(0.0833)	(0.0833)
b;d	0.9509	0.8	0.6
p-value	(0.013)	(0.1333)	(0.2333)
b;e	0.985	0.9	0.8
p-value	(0.0022)	(0.0833)	(0.0833)
c;d	0.9887	0.9	0.8
p-value	(0.0014)	(0.0833)	(0.0833)
c;e	0.9937	1	1
p-value	(6e-04)	(0.0167)	(0.0167)
d;e	0.9749	0.9	0.8
p-value	(0.0047)	(0.0833)	(0.0833)

Result: Based on the analysis above, it is evident that there exists a strong correlation among all aspects of the present research, including the effectiveness of virtual trainings, improvement of communication, provision of high-speed information, promotion of team efforts, career advancement, and professional enrichment.

VIII. CONCLUSION AND FINDINGS

In the absence of physical gatherings, virtual training presents an excellent avenue for employees to enhance their skills. While virtual training may pose certain challenges, it concurrently offers staff members an opportunity to refine their learning processes, courtesy of its convenience, adaptability, and technological innovations. Maximizing the potential of virtual training hinges upon one's ability to grasp this mode of learning and appreciate its potential benefits, whether you are involved in its design, facilitation, or participation.

In the absence of physical interaction, virtual training offers an excellent opportunity for employees to enhance their skills. While virtual training may present certain challenges, it also provides staff members with the means to refine their learning processes, thanks to its convenience, flexibility, and technological innovations. Realizing the full potential of virtual training depends on one's ability to comprehend this approach and its possible advantages, whether you are involved in design, leadership, or active participation in virtual training sessions.

Key findings of the study are as follows:

1) The research revealed that among all respondents, 32% fully agreed, 38.5% agreed, 7.5% were neutral, 13.5% disagreed, and 8.5% strongly disagreed regarding the effectiveness of virtual training in improving communication.

2) Furthermore, of all respondents, 35.5% strongly agreed, 34% agreed, only 4% were neutral, 17% held opposing views, and merely 9.5% strongly objected to the notion that virtual training enhances communication. A significant majority of respondents endorsed the idea that virtual training improves communication.

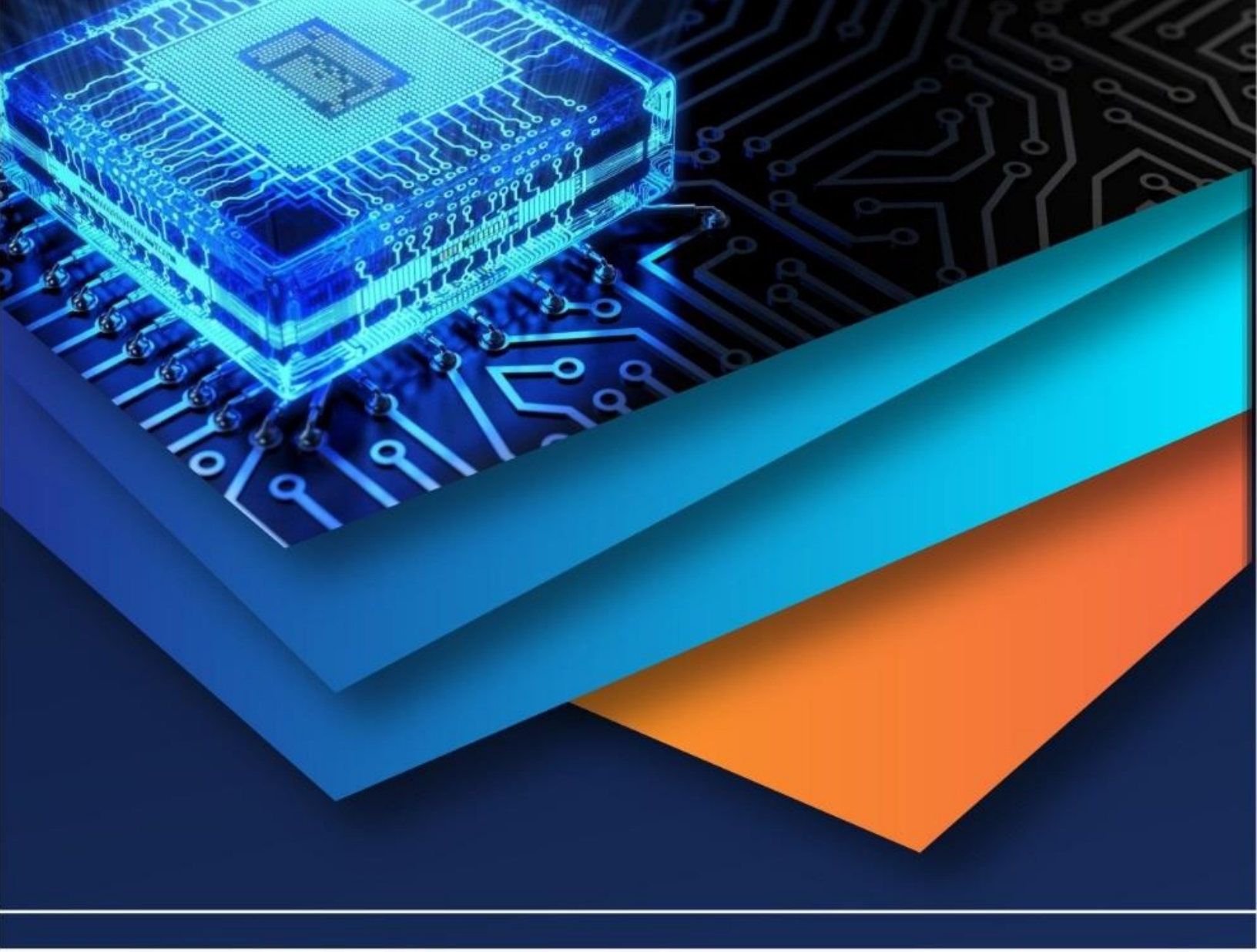
3) A mere 5% of respondents expressed indifference, 14.5% disagreed, and only 7% strongly disagreed concerning the effectiveness of virtual training in providing high-speed information. In contrast, 33% fully agreed, and 40.5% agreed. The overwhelming majority of respondents affirmed the efficacy of virtual training in delivering high-speed information.

4) All respondents unanimously indicated that virtual training is effective for career advancement, with 36.5% strongly agreeing, 43.5% agreeing, 6% remaining neutral, 9.5% expressing disagreement, and just 4.5% strongly disagreeing. The vast majority of respondents expressed that they anticipate benefiting from virtual training for career progression.

5) Among all respondents, 31.5% fully agreed, 35.5% agreed, 7.5% were neutral, 17.5% disagreed, and only 8.5% strongly disagreed regarding the effectiveness of virtual training for professional enrichment. Notably, nearly two-thirds of respondents conveyed a preference for virtual training for enhancing their professional skills.

REFERENCES

[1] Alotaibi, A. F. (2020). Employees' Perceptions and Attitudes towards Virtual Training: A Literature Review. International Journal of Advanced Computer Science and Applications, 11(1), 110-117.
[2] Baldwin, J. P.& Walters, C. K. (2018). Virtual Training Effectiveness: A Review of the Literature. International Journal of Information Technology Project Management (IJITPM), 9(4), 19-32.
[3] Bernard, F., Roxana, T. & Sylvie, G. (2013). Acceptance and Appropriation of Videoconferencing for E-training: an Empirical Investigation, 1-15.
[4] Bhattacharya, A.& Sharma, V. (2021). Virtual Training Effectiveness for IT Employees: A Literature Review. International Journal of Advanced Research in Computer Science, 12(1), 14-22.
[5] Ellis, P. F., &Kuznia, K. D. (2014). Corporate Elearning Impact on Employees. Global Journal of Business Research, 1-15.
[6] Kulkarni, P. (2013). A Literature Review on Training & Development and Quality of Work Life, International Refereed Research Journal, 4(2).
[7] Kumar, A.& Sharma, V. (2021). Effectiveness of Virtual Training: A Study of Information Technology (IT) Sector Employees. Journal of Human Resource Management, 4(2), 33-48.
[8] Maxwell, A. (2012). Technological Advancements in Methods of Training with Reference to Online Training: Impact and Issues for Organizations, International Refereed Research Journal, 3(3).
[9] Mohamad, N.I., Ismail, A. &Nor, A.M. (2020). Effect of managers' support in technology based training on training transfer. International Journal on Emerging Technologies, 11(2), 985-990.
[10] Ongori, H. and Nzonzo, J.C. (2011). Training and Development practices in an organisation: An intervention to enhance organisational effectiveness, International Journal of Engineering and Management, 2(4), 187-198.
[11] Ramayah, T. (2012). An Assessment of E-training Effectiveness in Multinational Companies in Malaysia. Educational Technology & Society, 15.
[12] YunusKathawala and Andreas Wilgen (2004). E-Learning: Evaluation from an Organizations prospective" Training & management development methods, Emerald Group of Publications, 18, 5-13.



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY