



Tribhuvan University
Institute of Science and Technology

A Report on
"Technical Writing "

For
Technical Writing (CSC379)

Submitted to:
Department of Computer Science and Information Technology
Asian College of Higher Studies
Ekantakuna, Lalitpur

In partial fulfillment of the requirements
For the Bachelors of Science in Computer Science and Information Technology

Submitted by:
Sulav Adhikari (23081003)

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Under the Supervision of:

Ms. Riju Shrestha

ACKNOWLEDGEMENT

I would like to thank **Ms. Riju Shrestha** for her valuable guidance and thorough review of this report. Her constructive feedback and continuous support have been essential to the completion of this work. Her expertise and dedication to helping students achieve their academic goals are truly commendable. Throughout the research and writing process, her insights have helped shape the direction and quality of this report.

I am grateful for the opportunity to work under such dedicated mentorship and for the time and effort she invested in ensuring the success of this project.

With respect,
Sulav Adhikari

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1. Write a brief newspaper article explaining the importance of training for the staff of a company.

The Strategic Importance of Staff Training in Modern Organizations

August 5, 2025

By Sulav Adhikari

Staff training represents a fundamental investment in organizational success and competitive advantage. When companies provide comprehensive training programs, employees develop enhanced skills and competencies that directly translate to improved job performance and productivity. This systematic approach to skill development ensures that organizations maintain high standards of service delivery and operational excellence.

Employee retention and job satisfaction are significantly enhanced through structured training initiatives. Organizations that prioritize professional development create a culture of growth and opportunity, leading to increased employee loyalty and reduced turnover rates. This retention of experienced personnel preserves institutional knowledge and reduces the substantial costs associated with recruitment and onboarding new employees.

Training programs play a critical role in maintaining workplace safety standards and regulatory compliance. Proper training ensures that employees understand safety protocols, equipment operation procedures, and industry regulations. Organizations with comprehensive training programs demonstrate their commitment to employee welfare and regulatory responsibility.

The long-term strategic benefits of staff training extend to organizational adaptability and innovation capacity. Trained employees are better equipped to embrace technological changes, implement new processes, and contribute to problem-solving initiatives. Companies that consistently invest in employee development create a workforce capable of driving innovation and supporting sustainable business growth.

2. Write a report on Pandemic effects of Corona Virus (COVID-19) that affected in your locality.

Impact of COVID-19 on Health, Economy, and Community Life in Dakshinkali Municipality, Nepal

Abstract

The COVID-19 pandemic created widespread disruptions across Dakshinkali Municipality, a rural-urban locality in Kathmandu District, Nepal, impacting healthcare delivery, local economy, and community life. This report examines the multifaceted effects of the pandemic on this municipality, utilizing secondary research to understand the challenges faced by local health facilities and residents. The study compares Dakshinkali's experience with similar rural municipalities in Nepal and examines parallels with other South Asian communities. Primary objectives include evaluating health system responses, economic impacts on agriculture and local businesses, social disruptions including education, and identifying effective community-based interventions. Key findings indicate significant strain on limited healthcare infrastructure, disruption of agricultural supply chains, and pronounced effects on vulnerable populations, highlighting the urgent need for strengthened local governance and improved rural health systems.

1. Introduction

1.1. Background

The COVID-19 pandemic, officially declared by the World Health Organization in March 2020, reached Nepal in January 2020 with its first confirmed case. Nepal experienced devastating waves throughout 2020-2021, with over 1 million recorded cases and significant mortality rates. While urban centers like Kathmandu Valley initially bore the brunt of infections, rural municipalities like Dakshinkali faced unique challenges due to limited healthcare infrastructure and economic dependence on agriculture and remittances. Dakshinkali Municipality, located in the southern part of Kathmandu District, represents a typical rural-urban interface community where residents depend on both traditional agriculture and modern economic activities. The municipality's proximity to Kathmandu made it vulnerable to virus transmission while its rural characteristics limited access to adequate

healthcare and economic support systems.

1.2.Problem Statement

Dakshinkali Municipality experienced distinct pandemic-related challenges including overwhelmed local health posts, disrupted agricultural activities during critical seasons, and limited access to COVID-19 testing and treatment facilities. The community faced economic hardships as remittance flows decreased and local markets closed during lockdowns. Educational institutions remained closed for extended periods, affecting children's learning outcomes. Mental health issues increased due to isolation, economic stress, and health anxieties. The municipality's limited technological infrastructure hindered access to online services and information, while governance challenges at the local level complicated coordinated pandemic responses.

1.3.Objectives

The primary objectives of this report are to:

- i. Analyze the health system impacts and community health outcomes in Dakshinkali Municipality during COVID-19.
- ii. Assess economic disruptions affecting agriculture, local businesses, and household income.
- iii. Evaluate social impacts including education disruption, mental health, and community cohesion.
- iv. Compare experiences with similar rural municipalities and South Asian communities
- v. Recommend evidence-based strategies for future pandemic preparedness and community resilience.

1.4.Limitations

This report relies exclusively on secondary data sources due to constraints in conducting primary research. Limited availability of municipality-specific COVID-19 data restricts detailed local analysis. Potential publication bias in available studies and the rapidly evolving nature of post-pandemic recovery may affect the relevance of some findings. The absence of real-time community surveys limits understanding of current conditions as of August 2025. Language barriers and access to local-language sources may have excluded relevant community-level documentation.

1.5. Significance of Report

This report provides valuable insights for local policymakers, health administrators, and community leaders in Dakshinkali and similar rural municipalities. By documenting pandemic impacts and responses, it contributes to Nepal's growing body of evidence on rural pandemic management. The comparative analysis with other communities offers transferable lessons for improving local preparedness and response capabilities. This research supports evidence-based planning for rural health system strengthening and community resilience building.

2. Literature Review

Research on COVID-19 impacts in Nepal's rural municipalities reveals significant variations in pandemic experiences based on local capacity and governance structures. Studies from Bagmati Province, where Dakshinkali is located, show that rural areas faced unique challenges including limited healthcare infrastructure, delayed access to testing, and economic disruption of agriculture-dependent communities. Provincial data indicates that while urban areas reported higher case numbers, rural communities experienced proportionally higher mortality rates due to delayed medical care and limited intensive care facilities. Comparative studies from rural South Asian communities, particularly in India's Maharashtra and West Bengal states, demonstrate similar patterns of healthcare system strain and economic disruption. These communities showed that agricultural disruptions during lockdowns led to food security issues, while limited digital infrastructure hampered access to government support programs. Community-based interventions, including local health volunteer programs and village-level coordination committees, proved effective in managing information dissemination and supporting vulnerable populations. These experiences offer relevant lessons for understanding Dakshinkali's pandemic response and recovery strategies.

3. Methodology

This study employs secondary research methodology, systematically reviewing existing literature, government reports, and news articles related to COVID-19 impacts in rural Nepal and Dakshinkali Municipality. Data collection involved

searching academic databases, government publications, and reputable news sources using keywords such as "COVID-19 rural Nepal," "Dakshinkali Municipality pandemic," and "rural South Asia COVID impacts." Information was synthesized through thematic analysis focusing on health, economic, and social impacts. Cross-referencing multiple sources ensured validity while acknowledging limitations in rural-specific data availability. The methodology prioritized recent publications (2020-2025) and peer-reviewed sources while including relevant government reports and credible news coverage to capture community-level impacts.

4. Discussion and Result

The COVID-19 pandemic severely impacted Dakshinkali Municipality's health and economic systems. Local health posts faced critical shortages of medical supplies and personnel, forcing residents to seek treatment in Kathmandu hospitals with significant delays. Maternal health services and child immunization programs were disrupted, while mental health issues increased among elderly residents and families separated from overseas workers. Economically, the agriculture-dependent municipality suffered major losses as vegetable farmers couldn't transport products to markets during lockdowns. Remittance-dependent households experienced reduced income as overseas workers lost jobs, while small businesses and religious tourism activities ceased completely.

Educational disruption was severe due to limited internet connectivity, widening learning gaps among disadvantaged families. Traditional community gatherings and religious ceremonies were restricted, straining social structures, though neighborhood mutual support networks emerged as positive responses. Compared to urban Kathmandu, Dakshinkali had lower infection rates but greater challenges accessing healthcare and economic support. The experience mirrors other rural Nepal municipalities and South Asian communities, where strong community networks provided crucial support but exposed systemic vulnerabilities in healthcare infrastructure and economic diversification.

5. Conclusion and Recommendation

COVID-19 significantly impacted Dakshinkali Municipality across health, economic, and social dimensions. While the community demonstrated resilience through informal support networks, systemic vulnerabilities in healthcare, digital

infrastructure, and economic diversification were exposed.

Recommendations:

- i. **Strengthen Rural Health Infrastructure:** Upgrade local health posts with better equipment, medicine supplies, and trained personnel to handle future health emergencies.
- ii. **Improve Digital Connectivity:** Invest in reliable internet infrastructure to enable online education, telemedicine, and access to government services.
- iii. **Diversify Local Economy:** Support agricultural value addition, promote local food processing, and develop alternative income sources to reduce over-dependence on remittances.
- iv. **Enhance Local Governance:** Strengthen municipality-level pandemic preparedness plans and improve coordination mechanisms with provincial and federal governments.
- v. **Build Community Resilience:** Formalize successful community support networks and establish local emergency response teams trained in health crisis management.

6. References

- [1] Ministry of Health and Population. (2020–2022). *COVID-19 situation reports and health system response*. Government of Nepal.
- [2] Nepal Rastra Bank. (2021). *Economic impact assessment of COVID-19 on rural communities. Quarterly Economic Bulletin*.
- [3] Bagmati Province Government, Provincial Planning Commission. (2022). *Provincial COVID-19 response and recovery report*.
- [4] UNESCO Nepal. (2021). *Education sector response to COVID-19: Rural areas assessment*. UNESCO Kathmandu Office.
- [5] World Food Programme Nepal. (2021). *Food security and livelihood assessment during COVID-19*. WFP Nepal Country Office.
- [6] South Asian Network for Development and Environmental Economics. (2022). *Rural South Asia COVID-19 recovery strategies* (SANDEE Working Paper).
- [7] Local Development Training Academy. (2022). *Municipal response to COVID-19: Lessons from Nepal* (LDTA Research Publication).

3. Prepare summary of a new book or film you have recently read or enjoyed.

A Divine Spectacle: "*Mahavatar Narsimha*"

As someone who appreciates cinematic artistry and mythological storytelling, I recently watched **Mahavatar Narsimha**, the 2025 animated epic from Hombale Films that's making waves in Indian cinema. This bold attempt brings ancient Hindu legends to life through cutting-edge animation, blending spiritual depth with visual grandeur for audiences drawn to meaningful storytelling.

The film follows the legendary tale of tyrannical demon king Hiranyakashyap, who declares war against Lord Vishnu and proclaims himself a god. The story centers on his devout son Prahlad, whose unwavering faith in Vishnu creates deadly conflict within his own family. As Hiranyakashyap's cruelty terrorizes mortals and celestials alike, the narrative builds toward divine intervention—the emergence of Lord Vishnu's fierce avatar, Narsimha, half-human and half-lion.

What unfolds is an epic confrontation between absolute evil and divine justice, masterfully animated with vibrant colors and intricate detail. The film doesn't shy away from intense, violent aspects of the original tale, creating genuine tension and awe. The animation quality rivals international standards, though pacing occasionally slows mid-film. At its core, it explores faith triumphing over oppression and the eternal battle between good and evil—themes resonating as strongly today as thousands of years ago.

The filmmakers expertly balance reverence for source material with modern storytelling techniques, creating cultural celebration that introduces younger generations to India's mythological heritage. If you appreciate high-quality animation or Indian mythology, catch **Mahavatar Narsimha** in theaters for its 3D grandeur. Prepare for a visually stunning journey honoring the past while embracing Indian cinema's future!

4. Apply for the post of Software engineering mentioning your skills and ability for Abstract Engineering Pvt. Ltd.

Dakshinkali-1, Kathmandu
Date: 08/24/2025
To,
The HR Manager
Abstract Engineering Pvt. Ltd.
Putalisadak, Nepal

Subject: Application for the Post of Software Engineer

Respected Sir/Madam,

I am writing to express my interest in the **Software Engineer** position at **Abstract Engineering Pvt. Ltd.** I admire your company's reputation in software development and am eager to contribute my skills to your team.

I hold a **Bachelor's degree in Computer Engineering** and have gained strong knowledge in programming languages including Java, Python, C++, HTML, CSS, JavaScript, and PHP. I am proficient in MySQL, PostgreSQL, cloud platforms like AWS and Azure, version control with Git, and web development frameworks such as React, Node.js, and Django.

During my studies, I completed several projects and internships that provided practical experience in real-world software development, enhancing my problem-solving, teamwork, and adaptability skills. I am confident in writing clean, efficient code while meeting project deadlines.

I believe my technical expertise and passion for continuous learning would make me a valuable addition to your development team. I would greatly appreciate the opportunity to discuss my qualifications in an interview.

Thank you for considering my application. I look forward to hearing from you soon.

Yours faithfully,
Sulav Adhikari
Contact: 9801872365, sulavadh124@gmail.com

5. You are the student of bachelor's level students and you want to apply for a scholarship for the further study and prepare cover letter and CV for that purpose.

Cover Letter

Sulav Adhikari

Dakshinkali-1, Kathmandu, Nepal

Chalnakhel, 44600

Email: sulavadh124@gmail.com

Phone Number: +977-9845123456

Date: August 30, 2025

Dr. Sarah Johnson

Program Director: Excellence Scholarship Program

Stanford University

Stanford, CA 94305

Dear Scholarship Committee,

I am writing to apply for the Excellence Scholarship to support my pursuit of a Master's degree in Cybersecurity at Stanford University. As a current undergraduate student pursuing a Bachelor's degree in Computer Science and Information Technology (B. Sc. CSIT) at Asian College of Higher Studies, I am passionate about advancing my knowledge in cybersecurity to contribute to innovative solutions in digital protection and threat mitigation. This scholarship would enable me to overcome financial barriers and focus fully on my academic and research goals upon completion of my undergraduate degree.

During my ongoing undergraduate studies, I have maintained a strong academic record and actively participated in projects that have honed my technical skills in cybersecurity. For instance, I led a team in developing a network intrusion detection system using machine learning algorithms, which was presented at the university's annual tech symposium. This experience not only strengthened my proficiency in programming languages like Python and Java but also taught me the importance of collaborative problem-solving in cybersecurity challenges. Additionally, I serve as Treasurer of the ACHS Club, where I have organized

What motivates me to pursue graduate studies is my aspiration to research advanced cybersecurity applications, particularly in developing regions where digital infrastructure protection is crucial for economic growth. However, as a first-generation college student from a modest background, funding my graduate education poses a significant challenge. Receiving this scholarship would alleviate these financial constraints, allowing me to dedicate myself to rigorous coursework, research, and extracurricular contributions without the burden of loans or part-time work.

I am eager to bring my enthusiasm, dedication, and innovative mindset to Stanford University, and I believe this scholarship aligns perfectly with my goals and your mission to support promising students in STEM fields. Enclosed is my curriculum vitae for your review. I would welcome the opportunity to discuss my application further.

Thank you for considering my application. I look forward to the possibility of contributing to and benefiting from this prestigious program.

Sincerely,
Sulav Adhikari

Curriculum Vitae

Sulav Adhikari

Student

Dakshinkali-1, Kathmandu

Contact number: +977-9845123456

Email id: sulav057@gmail.com

Objectives

To secure the Excellence Scholarship for pursuing a Master's degree in Cybersecurity at Stanford University, focusing on advanced threat detection and network security to contribute innovative cybersecurity solutions for protecting digital infrastructure in developing regions while gaining practical industry experience in offensive and defensive security techniques.

Training

- **Hack Start Pro – Comprehensive Cybersecurity Training (Ongoing) – Danphelink Pvt. Ltd., Kamalpokhari, Kathmandu, Nepal**

Covers foundational computing, networking, Linux commands, Active Directory attacks, modern web application exploitation, wireless network penetration testing, and professional security reporting. Maintaining a GitHub repository with documented course-related commands, scripts, and practice exercises:

<https://github.com/sulav063/CyberSecurity>

Skills

- Knowledge of network security principles, common cyber threats, and related defense strategies.
- Proficient in penetration testing, vulnerability assessment, firewalls, encryption, authentication protocols, and incident response.
- Strong analytical thinking, problem-solving, and documentation/reporting skills.
- Experience with Linux commands, Active Directory security, and web application security testing.

Education

- **2079 – Present - Bachelor in Science, Computer Science & Information Technology**
Asian College of Higher Studies (ACHS), Ekantakuna, Lalitpur

- **2078 – +2 in science**
Kathmandu Bernhardt Secondary School, Balkhu, Kathmandu
GPA: 3.34
- **2075 – Secondary Education Examination**
Panga Secondary School, Panga, Kirtipur
GPA: 3.50

Relevant Experience

Cybersecurity Research Project:

- Developed network security monitoring system as part of undergraduate coursework
- Implemented vulnerability scanning protocols for local network infrastructure
- Documented security assessment procedures and threat mitigation strategies

GitHub Portfolio Maintenance:

- Actively maintaining cybersecurity learning repository with practical exercises
- Sharing knowledge through documented scripts and security testing procedures
- Contributing to cybersecurity community through open-source learning materials

Certifications & Achievements:

- Currently pursuing Hack Start Pro Cybersecurity Certification
- Active contributor to cybersecurity learning community
- Strong academic performance throughout secondary and higher secondary education

6. Prepare a formal speech to deliver in the upcoming farewell program of your college as an Alumni.

Farewell Speech at the College Farewell Program

Honorable Chief Guest, Respected Principal, Distinguished Faculty Members, Esteemed Administrative Staff, Dear Parents and Guardians, and my Fellow Students — I extend my warm greetings to you all this evening.

It is a great honor to stand before you today as an alumnus of Asian College of Higher Studies, Ekantakuna, Lalitpur, affiliated with Tribhuvan University. I extend my heartiest congratulations to the graduating class. Today, we celebrate not only your academic achievements but also your dedication and hard work throughout these years.

During our time at this institution, we have created many valuable memories. I remember the first day when everything seemed new and challenging, the meaningful discussions after lectures, the hours spent in the library preparing for exams, and the friendships we built along the way. These experiences have shaped us into the individuals we are today.

To the graduating class, I would like to share three important pieces of advice that I believe will serve you well in your future endeavors.

First, never stop learning. Your education does not end with your degree. Continue to seek knowledge, ask questions, and explore new ideas. Read books, attend seminars, and learn from experienced professionals in your field. Knowledge is a powerful tool that will help you succeed in life.

Second, maintain good relationships with others. The teachers who guided us, the classmates who supported us, and the staff who helped us — these relationships are valuable. Stay connected with your mentors, help your juniors when they need guidance, and build professional networks that will benefit your career.

Third, always act with honesty and integrity. In your professional and personal life,

be truthful and ethical. Work hard to achieve your goals, admit your mistakes, and learn from them. Success achieved through honest means is more meaningful and lasting.

We must express our gratitude to those who made our education possible. To our respected faculty members — thank you for sharing your knowledge and guiding us with patience. To the administrative and support staff — thank you for your dedicated service. To our families — thank you for your constant support and encouragement. To our juniors — we wish you success in your studies.

As alumni, we remain connected to this institution. We will return as mentors and supporters of future students. I encourage all graduates to maintain this connection and contribute to the growth of our college. We should help create opportunities for the students who will follow in our footsteps.

As you begin this new chapter in your lives, I wish you courage to face challenges, wisdom to make good decisions, and determination to achieve your goals. Remember that education is a powerful tool for positive change. Use your knowledge to contribute to society and make a difference in the world.

In conclusion, I want to thank Asian College of Higher Studies, Ekantakuna, Lalitpur, and Tribhuvan University for providing us with quality education. Congratulations once again to the graduating class. May your future be filled with success, happiness, and meaningful achievements.

Thank you.

7. Write a recommendation report using the appropriate format.

15 Feb 2025
Ms. Priya Sharma
Hiring Manager
Creative Media House
Putalisadak, Kathmandu

Dear Hiring Manager,

I am pleased to recommend Mr. Raj Joshi for the position of Video Editor at your company. In my role as Creative Director at PixelMax Studios, I have rarely met someone as talented and dependable as Raj.

Since joining us in 2020 Raj has mastered our editing workflow and consistently met strict deadlines. He is detail oriented, creative & an excellent team player. His problem-solving skills & dedication even under tight schedules have been invaluable to our projects.

Raj also plays a big role in mentoring junior editors, sharing his expertise & video composition, color grading & sound design. His problem-solving skills & dedication even under tight schedules have been a guide other through technical challenges & better teams for our morale.

I am confident Raj will bring the same energy & quality to your organization. You may contact me at 9845123456 for any further details.

Sincerely,
Sulav Adhikari
Executive Director, PixelMax Studio

8. Write a research proposal to carry out experimental research on any topics of your interest area.

Evaluating the Effectiveness of Multi-Factor Authentication Implementation in Reducing Cybersecurity Incidents in Small and Medium Enterprises (SMEs) in Nepal

1. Abstract

This experimental study will evaluate the effectiveness of implementing multi-factor authentication (MFA) compared to traditional single-factor authentication in reducing cybersecurity incidents among small and medium enterprises (SMEs) across Nepal. The research aims to measure incident reduction rates, user compliance, and implementation feasibility in real-world business environments. 100 SMEs will be recruited and randomly assigned to either MFA implementation (intervention group) or traditional password-only authentication (control group). Primary outcome: reduction in successful cyber-attacks measured over 12 weeks. Secondary outcomes: user compliance rates, login security incidents, phishing success rates, and cost of implementation. Data will be collected at baseline, 4 weeks, 8 weeks, and 12 weeks. Statistical analysis will use mixed-effects models and intention-to-treat principles. The study aims to provide evidence on the practical implementation of MFA in resource-constrained environments and inform cybersecurity policy for Nepali businesses.

2. Background

Cybersecurity incidents in SMEs are increasing, with password-based attacks being the most common entry point for cybercriminals. Traditional single-factor authentication (password-only) is vulnerable to phishing, brute force attacks, and credential theft. Multi-factor authentication adds additional security layers but implementation challenges in SMEs include cost concerns, user resistance, and technical complexity. Limited research exists on MFA effectiveness specifically in Nepali SME environments. This study tests whether MFA implementation significantly reduces successful cyber-attacks compared to password-only authentication while remaining feasible for resource-constrained businesses.

3. Research Questions & Hypotheses

Primary research question: Does implementing multi-factor authentication significantly reduce successful cyber-attacks compared to traditional password-

only authentication in SME environments over 12 weeks?

Primary hypothesis (H1): SMEs using MFA will experience significantly fewer successful cyber-attacks compared to those using password-only authentication.

Secondary hypotheses (H2–H4):

- H2: MFA will demonstrate higher user compliance rates after initial training
- H3: MFA will reduce phishing attack success rates
- MFA implementation will be cost-effective for SMEs
- Users will report acceptable satisfaction levels with MFA systems

4. Objectives

Primary objective: Quantify the difference in successful cyber-attacks between SMEs using MFA and those using password-only authentication.

Secondary objectives:

- Compare user authentication compliance rates
- Measure phishing attack success rates in both groups
- Assess implementation costs and operational feasibility
- Evaluate user acceptance and satisfaction with authentication methods
- Document implementation challenges and best practices for SMEs

5. Study Design

- **Type:** Single-blind randomized controlled trial
- **Allocation:** 1:1 randomization into MFA implementation (intervention) or password-only authentication (control)
- **Setting:** SMEs across Kathmandu Valley with 10-50 employees
- **Duration:** 12 weeks active monitoring + 4 weeks follow-up assessment
- **Blinding:** Cybersecurity analysts evaluating incident reports will be blinded to authentication method

6. Intervention & Control

Intervention (MFA Group):

- Implementation of multi-factor authentication using SMS codes and authenticator apps
- Mandatory MFA for all employee accounts accessing business systems
- Initial user training on MFA setup and usage

- Weekly compliance monitoring and support
- Incident reporting and analysis protocols

Control (Password-Only Group):

- Standard password-based authentication maintained
- Enhanced password policy implementation (minimum complexity requirements)
- Regular password changes reminders
- Equivalent security awareness training (excluding MFA topics)
- Same incident reporting and analysis protocols

7. Outcome Measures & Instruments

Primary Outcome:

- **Successful Cyber Attacks:** Number of confirmed security incidents resulting in unauthorized access, data breach, or system compromise per SME over 12 weeks

Secondary Outcomes:

- **User Compliance Rate:** Percentage of successful logins using required authentication method
- **Phishing Success Rate:** Percentage of phishing attempts that result in credential compromise
- **Authentication Failure Rate:** Number of failed logins attempts per user per week
- **Incident Response Time:** Average time from security incident detection to containment (hours)
- **Implementation Cost:** Total cost of authentication system setup and maintenance
- **User Satisfaction:** Validated cybersecurity usability questionnaire scores
- **Business Disruption:** Number of work hours lost due to authentication issues

8. Statistical Analysis

- **Primary analysis:** Intention-to-treat using all randomized participants
- Descriptive statistics for baseline characteristics.
- **Poisson regression:** Compare incident rates between groups over time
- **Chi-square tests:** Compare compliance rates and phishing success rates
- **Mann-Whitney U tests:** Compare costs and satisfaction scores between groups
- **Time-series analysis:** Examine trends in security incidents over study period
- **Sensitivity analyses:** Per-protocol analysis and handling of missing data
- **Subgroup analyses:** By company size, employee age demographics, and industry sector

9. Sample Size Calculation

Based on pilot data showing average 5 successful attacks per SME over 12 weeks with password-only authentication, expecting 50% reduction with MFA (2.5 attacks), with $\alpha = 0.05$ and power = 0.80: required sample = 50 SMEs per group, total 100. Planning to recruit 110 SMEs to account for ~10% dropout rate.

10. Participant Selection

Inclusion Criteria:

- SMEs with 10-50 employees in Kathmandu Valley
- Current use of computer systems for business operations
- Email and internet access for all employees
- Willingness to participate for full study duration
- Basic existing cybersecurity measures (antivirus, firewall)

Exclusion Criteria:

- Companies already using multi-factor authentication
- Organizations in highly regulated sectors with specific authentication requirements
- Businesses planning major IT system changes during study period
- SMEs with less than 6 months of operation

11. Feasibility and Risk Management

- **Pilot Phase:** Test MFA implementation with 5 SMEs to refine protocols
- **Technical Support:** Dedicated support team for authentication issues
- **User Training:** Comprehensive training program for MFA adoption
- **Business Continuity:** Backup authentication methods during system issues
- **Data Protection:** All incident data anonymized and encrypted
- **Ethical Considerations:** No reduction in existing security measures for control group

12. Timeline (16 Months)

- Months 1-2: Ethics approval, system procurement, staff training
- Months 3-4: Pilot study and protocol refinement
- Months 5-6: Participant recruitment and baseline assessments
- Months 7-9: System implementation and initial monitoring
- Months 10-12: Active data collection period
- Months 13-14: Follow-up assessments and system evaluation
- Months 15-16: Data analysis, report writing, and dissemination

13. Budget (Estimated in NPR)

- MFA Software Licenses and Setup: 300,000
- SMS Gateway Services: 150,000
- Training Materials and Sessions: 200,000
- Personnel (Research Team): 800,000
- Technical Support Services: 250,000
- Data Collection and Analysis: 150,000
- Participant Compensation: 100,000
- Administrative Costs: 100,000
- Total Estimated Budget: 2,050,000 NPR

14. Expected Outcomes & Impact

- **Evidence bases** for MFA effectiveness in Nepali SME environments
- **Implementation guidelines** for authentication security adoption
- **Cost-benefit analysis** to inform SME cybersecurity investments
- **Policy recommendations** for national cybersecurity frameworks
- **Training materials** for cybersecurity awareness programs
- **Best practices** for authentication implementation in resource-constrained settings

15. Dissemination Plan

- **Academic Publications:** Submit findings to cybersecurity and business journals
- **Industry Workshops:** Present at Nepal cybersecurity conferences
- **Policy Briefings:** Share results with government cybersecurity agencies
- **SME Training Programs:** Develop authentication security guidelines
- **Media Coverage:** Publish findings in business and technology publications

16. Ethical Considerations

- **Ethics Approval:** Obtain approval from institutional review board
- **Informed Consent:** All participating SMEs will provide written consent
- **Data Protection:** Strict protocols for handling sensitive business and security data

- **Risk Mitigation:** Continuous monitoring to prevent security degradation
- **Withdrawal Rights:** Participants can withdraw without penalty

17. Appendices

- Detailed system specifications and configuration protocols
- Informed consent forms (English and Nepali)
- Data collection instruments and questionnaires
- Detailed budget breakdown with procurement quotes
- Risk assessment and mitigation strategies

9. Write down Email to your superior for the request of 3 days leave.

Date: 30 August, 2025

From: sulav.adhikari@techsolutions.com

To: manager@techsolutions.com

Subject: Request for 3 Days Leave - Family Emergency

Respected Sir/Madam,

I hope this message finds you well. I am writing to formally request three days of leave from 2nd September to 4th September, 2025 (inclusive of 3 working days) due to a family emergency that requires my immediate presence and attention. This unexpected situation demands that I be with my family during this critical time to provide necessary support and handle urgent family matters.

To ensure smooth operations during my absence, I have completed all critical security assessments scheduled for this week and briefed my team members on security monitoring, network vulnerability scans, threat detection, incident response, and emergency protocols. I have also updated all security documentation and current project status to maintain continuity.

While I will be attending to personal matters, I remain available at +977-9876543210 for any critical security incidents or emergency matters that may require my immediate attention. I have ensured that all ongoing cybersecurity projects are up to date and my team is fully briefed on current security protocols with all systems monitored and secure.

I sincerely apologize for any inconvenience this may cause and appreciate your understanding regarding this family emergency. I am committed to ensuring minimal disruption to our cybersecurity operations and will resume my duties with full dedication upon my return.

Thank you for your support and consideration, and I kindly request your approval for this leave.

Best regards,

Sulav Adhikari

Cybersecurity Head

sulav.adhikari@techsolutions.com

10. You are the manager of the Production Department of the XYZ Company. In the past three months the productivity of the employees has remained stagnant, and upcoming season requires increased production of goods. Write a memorandum to the Manager of Human Resources recommending a bonus plan to encourage employees, and suggest other ways increasing productivity.

Memorandum

Date: 30 August, 2025

TO: Priyanka Guragain, Human Resources Manager

FROM: Sulav Adhikari, Production Department Manager

SUBJECT: Bonus Plan & Productivity Enhancement Recommendations

We are excited to announce the upcoming seasonal production requirements that demand increased output from our production teams. Over the past three months, employee productivity has remained stagnant, and with the upcoming season requiring enhanced production capacity, this presents an urgent need to implement strategic initiatives to boost employee motivation and operational efficiency.

Recommended Bonus Plan: Performance-Based Incentive System - A comprehensive bonus structure that rewards employees based on individual and team productivity targets. This system will include monthly performance bonuses, quarterly achievement awards, and seasonal production completion incentives to optimize energy consumption and maximize output affordably.

Product Focus: Enhanced Production Output - A targeted approach that integrates improved workflow systems, advanced equipment utilization, and streamlined processes to optimize operational efficiency and reduce production bottlenecks.

Target Market: Environmentally conscious production methods and tech-savvy operational improvements.

Launch Date: September 1, 2025

This achievement was made possible through the incredible collaboration of our Sales, Marketing, Production Development, Customer Service, Finance, and HR teams. Further implementation materials will be provided through your department needs. Thank you all for your continued dedication and support.

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Sulav Adhikari

Production Manager

Samsung Electronics Ltd.

Conclusion

This report on *Technical Writing* has provided valuable insights into the diverse forms of professional communication required in academic, corporate, and social contexts. Each task, from preparing a newspaper article and a formal report to writing a speech, a research proposal, and business correspondence, has strengthened the ability to express ideas clearly, concisely, and appropriately for the target audience.

Through these exercises, I have learned the importance of structure, tone, and format in technical writing. The assignments demonstrated how effective communication can enhance professional opportunities, support decision-making, and build strong organizational practices. They also highlighted the role of accuracy, clarity, and persuasion in written documents.

Overall, the preparation of this report has improved my writing competence and confidence in handling various technical writing scenarios. The knowledge gained will be highly useful in both academic studies and future professional endeavors, particularly in fields that demand precise and impactful communication.