

TECH OPERATION INTERN OF CRYSTAL VISION SOLUTIONS

by

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20301341

An Internship submitted to the Department of Computer Science and Engineering
in partial fulfillment of the requirements for the degree of B.Sc. in Computer
Science

Department of Computer Science and Engineering
Brac University
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Declaration

It is hereby declared that

1. The internship submitted is my original work, completed while pursuing a degree at Brac University.
2. The report does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The report does not contain material that has been accepted or submitted for any other degree or diploma at a university or other institution.
4. We have acknowledged all main sources of help.

Student's Full Name & Signature:

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20301341

Approval

The internship “Tech Operation Intern of Crystal Vision Solutions” submitted by

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of Spring, 2025 has been accepted as satisfactory in partial fulfillment of the requirement for the degree of B.Sc. in Computer Science on June 20, 2025.

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Ethics Statement

The utmost ethical principles, which are maintaining confidentiality and carrying out all duties with integrity, have been my guides throughout this internship. I created original material that was accurate and adhered to the organization's guidelines, policies, and the law. To make sure that my actions always reflected positively on the company and myself, I kept clear of any conflicts of interest and handled clients and colleagues with respect and professionalism.

Executive Summary

This is my internship experience report at Crystal Vision Solutions, one of the prominent IT organizations in Bangladesh that imports and distributes servers, networking equipment, and security solutions. I worked as a Tech Operations Intern and supported the operational procedures, kept inventory data updated, coordinated with suppliers, and gained knowledge about fundamental IT infrastructure components. Although I operated primarily from home since the internship was flexible, I gained a great deal of knowledge about the operations of an IT hardware company, improved my professional communication skills, and improved my knowledge of how enterprise IT functions.

Acknowledgement

First of all, I would like to express my deepest gratitude to Almighty for giving me strength and patience to finish this internship process and the report. I would like to express my heartfelt thanks to my academic supervisor, Mr. Rafeed Rahman Sir, for the ongoing guidance, support and advice during my internship. I would also like to thank the Crystal Vision Solutions team, especially the operations and technical support team, for their cooperation and encouragement throughout the internship.

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Chapter 1

Overview of Internship

1.1 Student Information

Name	Tahin Imtiaz
ID	20301341
Program	Bachelor of Computer Science and Engineering (CSE)
Major	Computer Science and Engineering (CSE)
Minor	N/A

Table 1.1: Student Information

1.2 Internship Information

1.2.1 Period, Company Name, Department, Address

Period	10 November 2024 – 10 March 2025
Company Name	Crystal Vision Solutions (CVS)
Department	Tech Operation
Address	Tower 71, Level-8, ECB, Dhaka Cantonment, Dhaka-1206, Dhaka, Bangladesh

Table 1.2: Internship Information

1.2.2 Internship Company Supervisor

Name	Md. Forhad Hossain
Position	Jr. Hardware Engineer

Table 1.3: Internship Company Supervisor's Information

1.2.3 Job Responsibilities

As I was in a Tech Operation position at the company, and with the team's assistance, I finished several kinds of duties during the time of my internship ???. As a Tech Operation Intern, my primary responsibilities included:

- Updating and sorting inventory reports
- Helping with procurement coordination and monitoring shipments
- Recording vendor information and prices
- Maintaining customer support records and feedback
- Studying networking and server hardware through technical textbooks
- Production of datasheets and product information sheets
- Managing communication with in-house teams to ensure seamless day-to-day operations
- Arranging online documents on guarantees and customer deliveries
- Helping with technical paperwork tracking
- Maintaining and updating the database
- Assisting in troubleshooting hardware problems

1.3 Internship Outcome

- Acquired a comprehensive understanding of computer hardware, switches, routers, and server components
- Obtained hands-on experience in using CRM and inventory tracking tools (rudimentary application of Excel)
- Enhanced professional email writing and report writing skills
- Understood how large-scale procurement and delivery coordination operate
- Learned to prepare documentation for internal use and reporting to clients
- Helped implement new technological solutions for daily operations, optimizing team performance

These experiences allowed me to make a meaningful impact on both the team and the organization.

1.3.1 Challenges Faced During the Internship

As it was my first internship experience, I consider it a rewarding yet adventurous journey. Some of the challenges I faced include:

- Difficulty understanding the wide range of IT products and their specifications
- Mixing up paperwork due to unfamiliarity with internal policies
- Struggled with time management while working remotely
- Required self-study to understand industry terminology and documentation standards
- Took time to understand warranty policies and procurement terms

Chapter 2

Organizational Part

2.1 Introduction

Crystal Vision Solutions is a reliable IT infrastructure and hardware solutions in Bangladesh. Crystal Vision has a long experience in the IT field and is a renowned trusted importer, distributor, and solution provider for large and medium enterprises. Crystal Vision has a vast range of hardware solutions, from networking equipment to server infrastructure and security solutions [1].

2.1.1 Mission

To serve businesses with stable, modern IT hardware and network infrastructure quality products and superior support.

2.1.2 Vision

To be the leading enterprise IT solutions in Bangladesh by enabling digital transformation and development through innovation, trust, and quality. Our vision is to become a top hardware provider and solution company in technology solutions, transforming technology sectors with good services, software, to hardware solutions.

2.2 Overview of the company

2.2.1 About Crystal Vision Solution

Crystal Vision Solutions is an authorized reseller of leading global IT brands, including Dell, HP, Cisco, Lenovo, Juniper, MSI, and Microsoft. It offers enterprise clients high-quality servers, routers, switches, surveillance equipment, and computer hardware. Crystal Vision Solutions is support- and quality-driven. We are a premier system integration and technology distribution company. We offer a wide range of products to meet different customer needs, from simple networking to complex server configurations. It prides itself on its quick response, after-sales technical service, and effective logistics. They have different operations team for each individual IT sector. Such as their sub-branch fiber accessories bd handle the par of SFP module, SFP DAC Cables and Fiber Optic Cables. Likewise, aruba Bd operate for switches and access points.

2.2.2 Products and Services Offered by Crystal Vision Solution:

1. Server and Network Hardware Distribution

- Brand-name server solutions and peripherals (HP, Dell, Lenovo)
- Networking devices (Cisco, Juniper, Aruba)
- Spare parts for business computers

2. Security and Surveillance Solutions

- CCTV cameras, NVR/DVR systems
- Access control and biometric security systems

3. IT Consulting and Infrastructure Design

- Infrastructure design for clients
- Pre-deployment planning and feasibility study

4. Software Development

- Custom business application development
- Comprehensive service delivery encompassing planning, building, and supporting
- Make business enhancement and customer-centric software a priority

5. Research and Innovation

- In-house research for monitoring market trends and client needs
- Data-informed feasibility study and strategy development
- Investigating and utilizing emerging technology tools to stay competitive

6. Cybersecurity Services

- Basic endpoint security configurations
- Network firewalls and VPN products
- Security audits and awareness training

7. IT Support and Maintenance

- 24/7 customer service and remote troubleshooting
- Aid and maintenance services on site
- Preserving health and increasing performance

8. E-commerce Solutions

- Development of scalable and easy-to-use e-commerce websites
- Integration with secure payment gateways and logistics APIs
- Backend inventory and order management modules

9. Network and IT Support Services

- Design and installation of enterprise networks
- Fiber optics, LAN/WAN installation, and configuration
- IoT device integration and automation support

10. Product Quality Assurance and Testing

- Pre-deployment manual and automated testing procedures
- Server hardware stress and load testing
- Ensuring delivery to achieve stated standards

11. Data and Business Analytics

- Utilization of analytics tools for tracking trends and performance
- Business intelligence dashboards for big business clients
- Consulting to improve efficiency derived from actionable intelligence

Chapter 3

Operations Management and Information System Practices

3.1 Operations Management

Operations management in a tech company like Crystal Vision Solutions focuses on optimizing internal processes to ensure effective resource utilization, reduced waste, and consistent service quality. The core objective is to enhance efficiency in procurement, vendor coordination, technical service delivery, and administrative documentation.

3.1.1 Resource Allocation

Resource allocation involves managing financial assets, technology, and human resources. Crystal Vision maintains adequate stock levels of high-demand items like routers, switches, and server components. Interns, including myself, contributed by tracking purchases and updating inventory records, supporting the company's resource planning initiatives.

3.1.2 Workflow Automation

Crystal Vision uses tools like Google Sheets, Excel, WhatsApp, and email to manage order tracking, shipment lead times, and warranty documentation. Although the company does not yet use platforms like Jira or ERP systems, there is growing recognition of the need for such tools to reduce human error and avoid task redundancy.

3.1.3 Supply Chain Management

Crystal Vision coordinates with both local and international vendors. From procurement to delivery, the company ensures that hardware is tested, documented, and accompanied by warranty certifications.

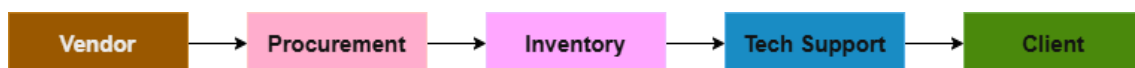


Figure 3.1: Crystal Vision Solutions Supply Chain Management Process

This flow reflects how hardware items are sourced, recorded, and distributed to business customers.

3.1.4 Performance Indicators

We measure performance against internal KPIs like:

- Delivery turnaround time
- Customer response and support time
- Product issue resolution rate
- Accuracy in warranty processing

These metrics are used to measure both technical and support staff performance.

3.1.5 Information Systems Practices

Key information systems used at Crystal Vision include:

- **Document Storage:** Google Drive and local servers are used to store records like delivery notes, warranties, and vendor documents.
- **CRM-type Sheets:** Custom spreadsheets record product deliveries and communication history with customers.
- **Basic Data Analysis:** Excel tools like pivot tables help analyze delivery lead times and vendor performance.
- **Cybersecurity:** Measures include password protection, encrypted emails, and basic firewalls.

The company lacks ERP or CRM systems like Oracle, SAP, or Salesforce currently, but it is planning to expand its operations and start using such systems to help connect different departments.

3.1.6 Business Intelligence and Analytics

They look at order volume, vendor performance, and customer feedback. While they lack Tableau or Power BI at present, the organization knows it needs these tools as it grows.

3.1.7 Industry and Competition Analysis

Industry Analysis: Porter's Five Forces

- **Threat of New Entrants:** High capital and brand loyalty create barriers, though online platforms reduce entry obstacles.
- **Supplier Bargaining Power:** Moderate. While suppliers like HP and Cisco hold market power, working with multiple vendors reduces dependency.

- **Buyer Bargaining Power:** High. Price-sensitive business clients demand strong service and warranty support.
- **Threat of Substitutes:** Low to moderate. Some hardware demand is being replaced by cloud services, but not entirely.
- **Industry Competition:** Very high. Numerous local distributors compete in the same product segments.

Competitor Analysis: SWOT Framework



Figure 3.2: Crystal Vision Solutions SWOT Analysis

Strengths:

- Trusted brand for enterprise hardware
- Strong relationships with global suppliers
- Experienced technical staff
- High client satisfaction

Weaknesses:

- Manual inventory tracking system
- No ERP system implemented
- Heavy reliance on imports
- Limited use of Business Intelligence tools

Opportunities:

- ERP and automation integration
- Expansion into cloud and cybersecurity markets
- Increasing demand for surveillance and network upgrades

Threats:

- Rising import duties and inflation
- Intense price competition from other local distributors

This strategic evaluation provides a framework for Crystal Vision Solutions to understand both internal capabilities and external market conditions, allowing for better planning in operations, communications, and service improvements.

Chapter 4

My Contribution

During the internship, I carried out different tasks that supported the tech operations of the business. My tasks were important for backend support, documentation, and enhancing communication among the team members. My major contributions include:

- Maintained inventory information in order to facilitate tracking purchases.
- Created documentation templates for tracking client orders and warranty claims.
- Developed a simple spreadsheet to monitor lead times for hardware imports.
- Facilitated team communications by summarizing email threads into brief logs.
- Developed and recorded FAQs for new staff members on the company's product lines.

These tasks optimized the effectiveness of the way the team operated and minimized the occurrence of repetitive questions among team members. Being interactive and ready to manage tasks helped me leave a good impact on day-to-day technological operations.

4.1 Methodology

In order to carry out this internship and report, I utilized both primary and secondary methods of data collection:

4.1.1 Primary Sources

- Directly communicated with the team members on WhatsApp and via email.
- Participated in virtual team meetings and coordination calls.
- Received allocated work via shared files and supervisor directives.

4.1.2 Secondary Sources

- Internal company reports and materials.
- Vendor manuals, price lists, and hardware documentation.
- External research on IT product details and terminology.

4.2 Findings & Analysis

- Documentation decreases confusion and makes things easier to keep track of.
- Enterprise hardware distribution involves very specific information and personalization to customers.
- Interns can really help the business succeed by keeping records, tracking vendors, and updating information inside the company.
- Customers in the technology sector demand prompt delivery and quality support.
- Both technical documentation and data analytics when combined improve productivity overall.

4.3 Recommendations

From what I have seen and understood, I would suggest the following to Crystal Vision Solutions:

- **Centralized Data Management:** Utilizing a cloud storage document system (Google Workspace or SharePoint) can save time in locating files and records. This allows access to previous data for employees to solve problems efficiently.
- **Onboarding Manual for Interns:** An electronic onboarding manual can aid new interns in adapting to their work sooner and acquiring fundamental tasks quickly.
- **Using Project Management Tools:** Tools like Trello or Asana can be utilized to track ongoing projects and deadlines.
- **Training Workshops:** Monthly workshops covering technical terms, cybersecurity basics, and product knowledge can enhance efficiency. Employees should be subjected to such programs to gain knowledge of new tools and technologies, helping maintain competitiveness in the business market.
- **ERP Lite Integration:** A lightweight ERP system for inventory and order tracking will improve traceability and client reporting.

Chapter 5

Conclusion

The Crystal Vision Solutions internship gave me the essential chance to observe how technical tasks are accomplished in a hardware-focused IT company. By being directly involved in inventory updates, document creation, vendor interface, and communications improvement, I had hands-on experience that one cannot gain from a classroom. This internship has not just improved my ability to work on tasks independently but also acquainted me with technical documentation, office communication, and general IT infrastructure. I believe that this internship has made my foundation strong for a future in the technology industry, particularly in operations or IT support roles. I am thankful for the flexibility and support of Crystal Vision Solutions and BRAC University during the process.

Bibliography

- [1] C. V. Solutions. “Crystal computers.” Accessed: 2025-06-19. (2025), [Online]. Available: <https://crystalcomputers.com.bd/>.