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Participant Handbook

Sector
IT - ITeS

Sub-Sector
Software Products

Occupation
Product Support

Reference ID: **SSC/Q7202, Version-2.0**
NSQF Level: 4

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Technical Support Executive - Voice

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Plot No -7 to 10, Sector 126, Noida, UP - 201303

Phone: 0120 4990172

E-mail: ssc@nasscom.in

Website: www.sscnasscom.in

First Edition, January 2019

Skilling is building a better India.
If we have to move India towards development then Skill Development should be our mission.

Shri Narendra Modi
Prime Minister of India

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COMPLIANCE TO
QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

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for

SKILLING CONTENT - PARTICIPANT HANDBOOK

Complying to National Occupational Standards of
Job Role/Qualification Pack: **Technical Support Executive - Voice** QP Nos **SSC/Q7202**
NSQF Level 4

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Authorised Signatory
(IT-ITes Sector Skils Council NASSCOM)

Acknowledgements

IT-ITeS Sector Skils Council NASSCOM would like to express its gratitude to all the individuals and institutions who contributed in different ways towards the preparation of this “Participant Handbook”. Without their contribution it would not have been completed. Special thanks are extended to those who collaborated in the preparation of its different modules. Sincere appreciation is also extended to all who provided peer review for these modules. The preparation of this Handbook would not have been possible without the IT - ITeS support. Industry feedback has been extremely encouraging from inception to conclusion and it is with their input that we have tried to bridge the skill gaps existing today in the Industry.

This handbook is dedicated to the aspiring youth who desire to achieve special skills which will be a lifelong asset for their future endeavours.

About this Book

This Participant Handbook is developed to impart training for the skill and knowledge required to work as an Technical Support Executive - Voice. It is designed based on the Qualification Pack SSC/Q7202 under the National Skill Qualification Framework and comprises of the following NOS/topics:

1. SSC/N7301 Deal remotely with basic IT service requests/incidents

2. SSC/N9001 Manage your work to meet requirements

3. SSC/N9002 Work effectively with colleagues

4. SSC/N9003 Maintain a healthy, safe and secure working environment

5. SSC/N9004 Provide data/information in standard formats

6. SSC/N9014 Implement & Improve the Gender Sensitivity, PWD (Person/People with Disability)

Sensitivity and Greening This book is designed considering the technical demand and educational background of the participants. Thus, special effort has been made to explain the concepts required for the job mostly through graphics and illustrations.

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1. IT-ITeS/Software Products Industry – An Introduction

Unit 1.1 - Introduction to IT-ITeS/Software Product Development Industry

Unit 1.2 - Career Path for a Technical Support Executive - Voice

Bridge Module

Key Learning Outcomes

At the end of this module, the trainee will be able to:

1. Comprehend various delivery models used in the IT/software products development industry

Unit 1.1 - Introduction to IT-IteS/Software Product Development Industry

Unit Objectives

At the end of this unit, the trainee will be able to:

1. Discuss the relevance of the IT-ITeS sector

1.1.1 Introduction to the IT/ITeS Industry

Information Technology (IT) refers to the creation, management, retaining, and transfer of ideas. IT includes all forms of information technology, including computer hardware and software used for digital resources, storage, and transfer. The IT industry is a key driver of economic growth globally. IT is used in various sectors like education, manufacturing, hospitality services, communication, medical services, etc. IT is used in our everyday lives in the form of doing office work, performing banking operations, paying utility bills, watching movies, booking tickets, etc. It is also used in many household products with embedded software like washing machines, microwave ovens, etc. Information Technology Enabled Services (ITeS) also known as web-enabled or remote services utilize a wide range of operations that uses IT to improve the efficiency of the business, company or organisation.

The IT/ITeS industry is broadly divided into the following sub-sectors:

IT Services

- Application Develoment
- Application Deployment
- Application Maintenance
- Data Scientists
- Infrastructure Management Systems
- Information Security
- IT Consulting
- IT Service Management
- Project Management
- Testing and QA, etc.

Business Process Management

- Analytics
- Customer Relationship Management
- Finance and Accounting Management
- Human Resource Management
- Knowledge Management
- Legal Services
- Supply Chain Manageemnt, etc.

Continued...

Software Products	Engineering Research and Development
• Enterprise application software • Integration and Deployment • Product Lifecycle Management • Packaged Software • Product Support • Quality Assurance and Testing, etc.	• Engineering Analysis • Hardware and Software Development • Hardware and Software Testing • Product Engineering Design • Research and Development • Service Invention • Technical Support, etc.

Fig. 1.1 Sub-sectors of the IT-ITeS Industry

(Source: IT-ITeS Sector Skill Council NASSCOM)

Information Technology and Business Process Management are about multinational companies or start-ups obtaining the services of a third-party vendor to manage certain activities of their work activities. IT-BPM industry is categorized as:

Multinational Companies (MNC)	• Companies having their headquarters outside India but operating across many locations worldwide.
Indian Service Providers (ISP)	• Companies based in India and carrying out operations from within India.
Global In-house Centres (GIC)	• Companies that cater to the needs of the parent organization only and do not serve any external clients.

Fig. 1.2 Categories of the IT-BPM Industry

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IT-enabled services include a wide range of operations that uses IT to improve the efficiency of a company/organization. Most major global companies across the globe prefer India for outsourcing due to the availability of talented and relatively cheaper manpower. Some of the IT enabled Services are:

- Call centres
- BPO (Business Process Outsourcing)
- KPO (Knowledge Process Outsourcing)
- ERP (Enterprise Resource Planning)
- IT helpdesk services
- Human resource services
- Back-office operations
- Data entry and management
- Medical transcription
- Telecommunication services
- Data warehousing, etc.

Fig. 1.3 IT-enabled Services

1.1.2 Relevance of IT/ITeS Sector

The IT industry is important in every business sector as it automates the processes and systems to reduce time, generate revenue, and increase work efficiency. The IT industry in India has provided jobs to millions of people, helped in the growth of the service sector, and has become a major foreign exchange earner. India's IT/ITeS sector contributes enormously to the economy by creating significant employment opportunities. India is considered the knowledge powerhouse for information technology. The IT industry has greatly boosted the socio-economic parameters in addition to the Gross Domestic Product (GDP) and exports. India has become one of the largest tech-startup hubs. Indian IT companies have shown capabilities in delivering both off-shore and on-shore services to global clients. India is also the largest offshoring destination for IT enterprises across the world. According to NASSCOM, the IT/ITeS sector collected a total of US $180 million, including export and domestic revenues. The Indian software products industry is expected to post US $30 billion by 2025. The software products exports accounted for 20.78% of the total Indian IT exports during FY21. The growing demand, global presence, policy support, and India's competitive advantage in IT is a big benefit.

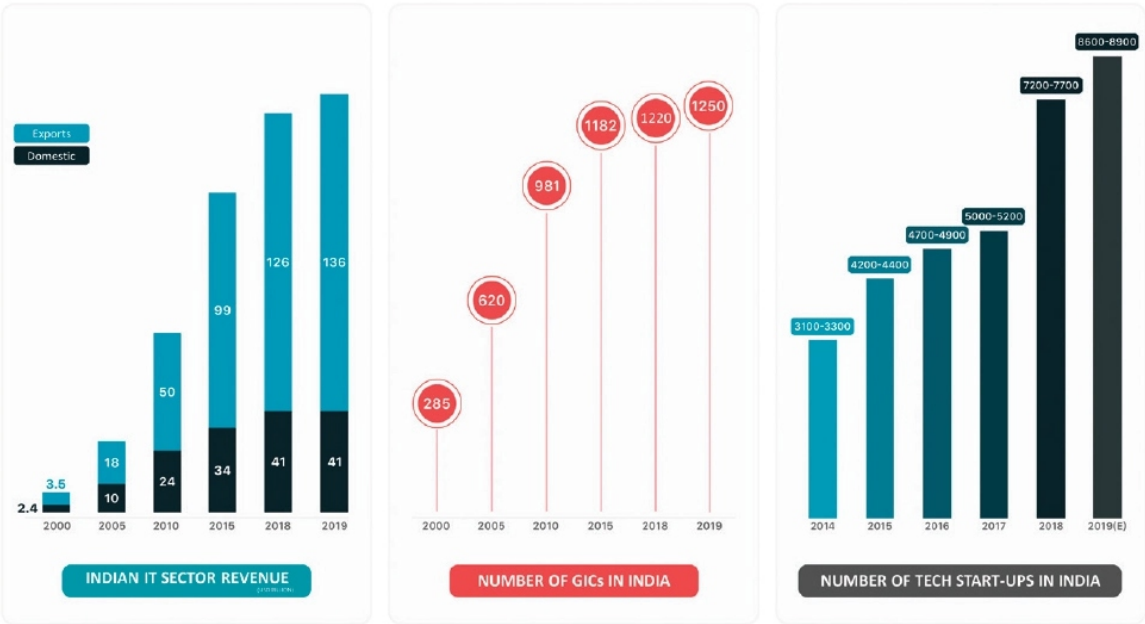

Fig. 1.4 Growth of IT Services, GICs, and Tech Start-ups in India
(Source: https://cacm.acm.org)

Indian IT companies have shown capabilities in delivering both off-shore and on-shore services to global clients. India is also the largest offshoring destination for IT enterprises across the world. The Indian IT sector's core competencies and strengths have attracted talent as well as investment from various countries and companies.

The Government of India has helped in the advancement of the IT industry by introducing many liberalization policies and other initiatives. The government initiatives like setting up Special Economic Zones (SEZ), Export Oriented Units (EOU), Software Technology Parks (STP) and Foreign Direct Investments (FDI) have helped the Indian IT industry to achieve a leading position in the global IT industry. The allocation for the IT and Telecom sector in Union Budget for 2022-23 is US $11.58 billion. The government of India has included 'Digital India' as one of the ten most important dimensions in Vision 2030. India has an advantage in the global IT industry because of the growing demand, global footprint, competitive advantage and policy support by the government.

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1.1.3 IT Software Product Development Industry

Information Technology Software Product Development companies typically develop a new product, upgrade an existing product, or improve a technique, method or process. The main steps involved in software product development are product idea generation, requirement and feasibility analysis, designing, development and coding, integration and testing, launching, maintenance and support. Along with developing software products and selling, they provide consulting, training and support services. One of the objectives of every software product company is to create value for its customers by developing useful products and supporting them to use and managing the products. The various people involved in software product development companies are researchers, designers, developers, database administrators, analysts, sales and marketing teams, customer support executives, etc.

Computer software can be defined as a set of instructions that orders a computer what to do. It includes a set of procedures and programs associated with the operations of a computer system. The process of storing and performing the tasks is called executing or running the program. It can be broadly classified into two categories as Application Software and Systems Software.

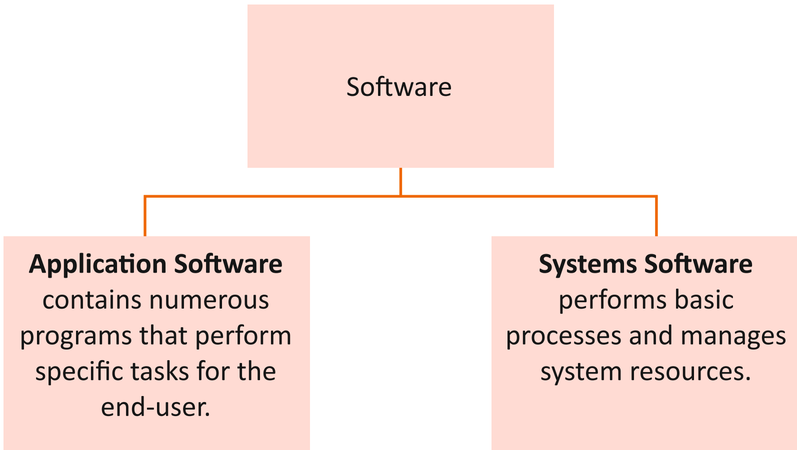


Fig. 1.5 Classification of Software

Software products are software systems delivered to customers with information regarding the installation and use of the system. A software product is the result of the complete software development process. It comprises the source code, operating manuals, documents, data, reports, plans, installation guides, prototypes, tests, test results, etc. It helps to manage, manipulate and organize data or information. Software products can be broadly divided into two types generic products and customized products.

Software Products

Generic Products are those sold in the open market to any customer who wants to buy them.

- **COTS (Commercial-off the shelf)** is typically an offline solution with a one-time purchase. It has to be installed directly onto a computer or laptop and requires some amount of configuration.
- **SaaS (Software as a service)** is typically cloud-based and obtained as a monthly or annual subscription service. They do not require direct installation onto the computer and the update happens automatically without any intervention from the users.

Customized Products are developed for a particular customer and require the design, development, release, and maintenance of the software product.

Fig. 1.6 Classification of Software Products

Some of the emerging trends in software development are:

Internet of Things (IoT) is a network of devices and systems that have sensors and processors, software and other technologies that help in connecting and exchanging data with other devices and systems over the internet.

Artificial Intelligence (AI) is building smart computers that can perform tasks that typically require human intelligence. Some examples of AI are automation, natural language processing, smart assistants, self-driving vehicles, robotics, etc.

Machine Learning (ML) is part of AI that allows machines to learn from data and statistical models without being programmed to do so. This helps to reduce errors, automate processes, create preventive actions, etc. thus saving time.

Continued...

Cloud computing deals with the on-demand delivery of various computing services like databases, servers, storage, software, etc.

Wearable devices include electronic devices like fitness trackers, smart watches, implants, etc. which are powered by microprocessors and have the ability to receive and send data using the internet.

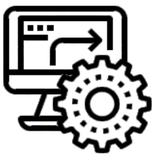
Augmented Reality (AR) combines real-world physical elements and the digital world to create an artificial environment.

Virtual Reality (VR) is a computer-generated simulation of an environment with scenes and objects that appear to be real.

E-commerce is the backbone of online shopping as it enables commercial transactions to be carried out through the internet. It helps in sharing business information and conducting business with customers.

Entertainment includes the use of technology to create animation, special effects, graphics, etc. in movies and cartoons.

Gaming apps allow people to play games on devices like mobile phones, computers, tablets, media player, etc. Many gaming apps come preloaded on the device or can be downloaded from the app stores. Games are available for single users as well as multiple users to play at the same time.



Automation speeds up processes and allows organisations to achieve their business goals more efficiently and quickly.

Chatbots are software programs that processes human conversation via text or speech and allows them to interact with digital devices.

Continued...

Big data analytics helps to extract useful insights, correlations, patterns, customer preferences, etc. from voluminous data.

Fig. 1.7 Emerging Trends in Software Development

1.1.4 Delivery Models used in the IT Software Product Development Industry

After the software or software product is developed, it has to be deployed or delivered to the user. The software undergoes several rounds of quality tests after programming to ensure that all the specifications are met and then delivered. The entire process starting from planning to the delivery of the software to the user is known as the software development life cycle (SDLC). SDLC is used for designing, developing, testing and delivering high-quality software. There are various models used in SDLC and can be broadly classified as:

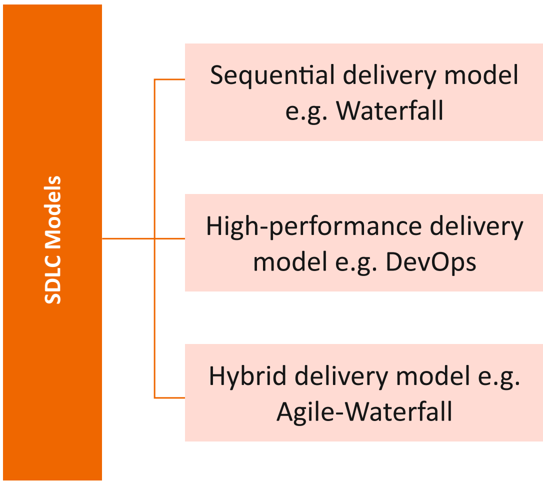


Fig. 1.4 SLDC Models

Waterfall model

This is the oldest, simplest, and most structured model of SDLC. It is also known as the linear-sequential life cycle model. All the phases run sequentially and each phase depends on the outcome of the previous phase. It gives a tangible outcome at the end of each phase. In this model, each phase has to be completed before starting the next phase. Hence there is no chance of overlapping the phases. The drawback of this model is that it does not offer flexibility once a phase is considered complete. Any changes after completion can affect the quality, cost and delivery time.

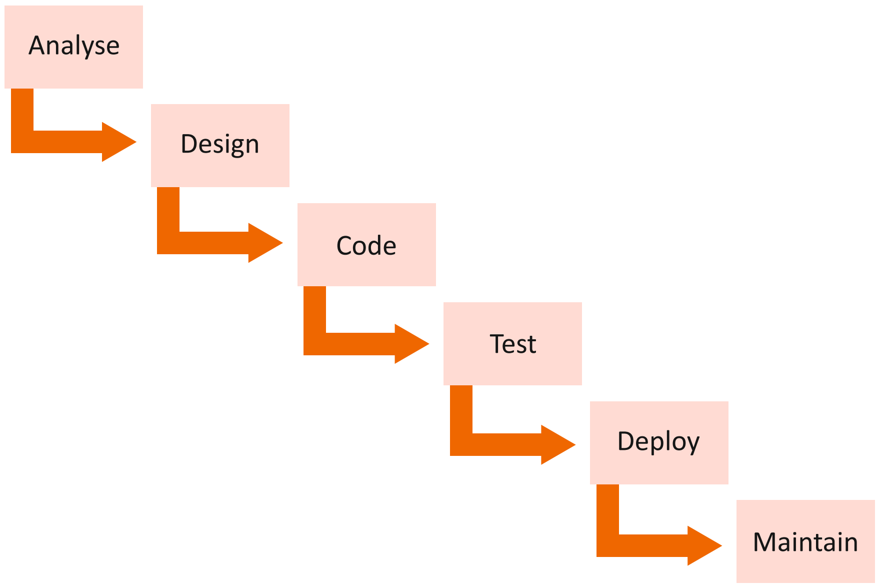


Fig. 1.9 Waterfall Model

Iterative model

In this model, the software requirements are broken down into smaller parts and each cycle produces a partial but deployable version of the software. The first iteration contains a small set of software requirements and every subsequent version adds more requirements to it and the final iteration contains the complete set of requirements. This helps the developers to catch potential errors in each phase and constantly improve the end product by the time it is deployed in the market.

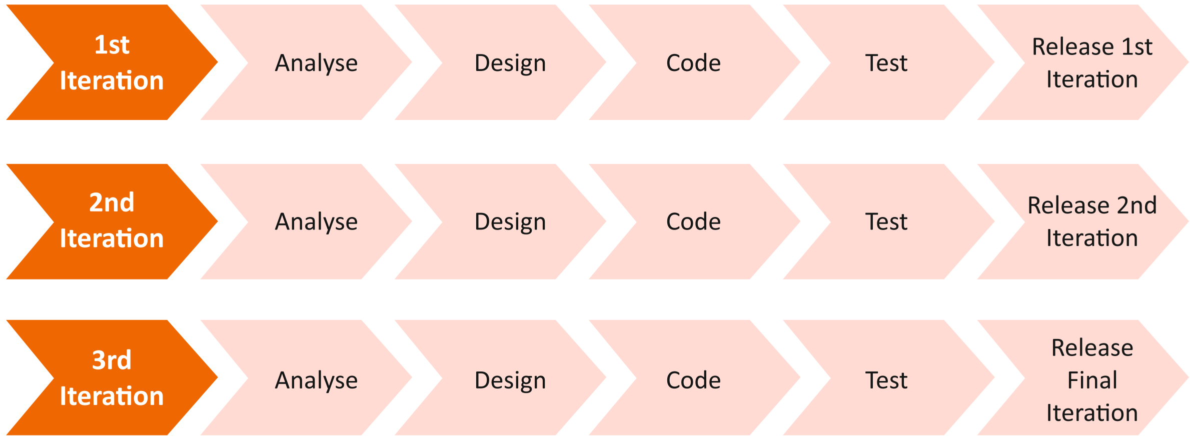


Fig. 1.10 Iterative Model

Agile Model

This model produces ongoing release cycles, with small incremental changes from the previous release. The product is tested after each iteration, which helps in identifying and resolving issues before they become major problems. This also helps the team members to keep all the stakeholders in the loop and get their inputs and feedback throughout the development process.

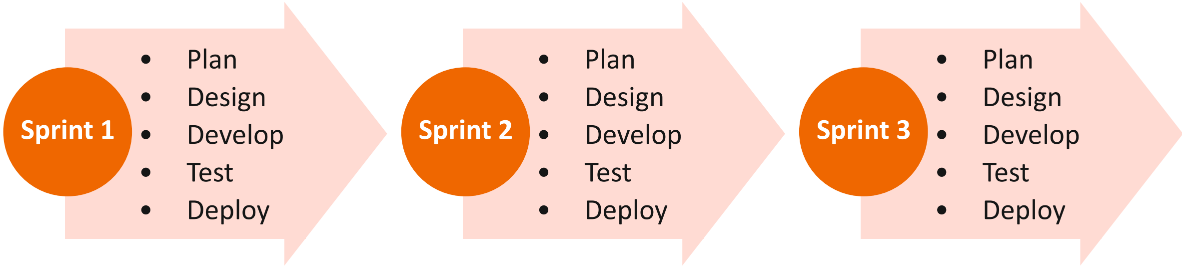


Fig. 1.11 Agile Model

DevOps

DevOps is a set of best practices for software development aiming at shortening delivery times for new software updates and at the same time maintaining quality. It has emerged from the agile development model. DevOps is the combination of the word's development and operations. It promotes the collaboration of the development and operations teams. It uses automation for software deployment and includes a Continuous Integration (CI) framework, where the new code is integrated into a shared repository by teams working regularly. This helps to detect and remove bugs early and ensures that the new release contains code with very few or zero errors.

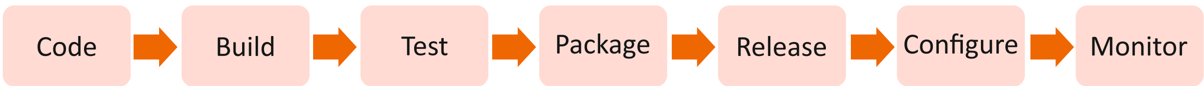


Fig. 1.12 DevOps Model

Unit 1.2 - Career Path of a Technical Support Executive- Voice

Unit Objectives

At the end of this unit, the trainee will be able to:

1. Identify the career path of a Technical Support Executive- Voice

1.2.1 Roles and Responsibilities of a Technical Support Executive- Voice

The roles and responsibilities of a Technical Support Executive- Voice are:

Receive service requests/incidents from customers through calls.	Log in complaints from the customers, and manage and resolve customer queries.
Record, document, categorise and prioritise the service requests/incidents using the organisation's query management tool and as per the organisational guidelines.	Resolve basic IT service requests and incidents related to networking, operating systems, software installation, hardware configiguation, etc.
Keep oneself updated with various technology trends and processes related to IT.	Interact with line managers, peers and customers.

Fig. 1.13 Roles and Responsibilities of a Technical Support Executive -Voice

1.2.2 Key Competencies of a Technical Support Executive- Voice

A Technical Support Executive should have both technical knowledge as well as soft skills to interact with customers and resolve their queries. The following are some of the key competencies of Technical Support Executives:

- Communication skills to communicate effectively with customers.
- Good listening skills to understand the requirements of the customers.
- Problem-solving ability to resolve the issues faced by customers.
- Time management to resolve issues in a quick and efficient manner.
- Critical thinking to understand and find solutions to problems.
- Attention to detail to identify discrepancies and take necessary actions.
- Customer handling skills to deal with different types of customers.
- Technical skills to resolve technical queries and incidents.
- Patience to deal with demanding customers as well as resolve difficult issues.
- Interpersonnel skills to work with colleagues, managers and other team members.

Fig. 1.14 Key Competencies of a Technical Support Executive- Voice

1.2.3 Career Growth Opportunities for a Technical Support Executive- Voice

Most of the Technical Support Executives- Voice enter the industry with 0 to 2 years of experience and typically start their career at the junior level carrying out simple tasks and learning from seniors and other colleagues. With some experience, the person can get promoted to a middle-level position as a senior executive and later as a shift supervisor and then as a team lead for customer support. At this level, the person will be able to take on more challenging jobs and lead a team. Later, the person can enter the managerial or leadership level as a product support lead and can aspire to become the head of the company by honing their managerial skills further.

The following figure shows the career path of a Technical Support Executive -Voice:

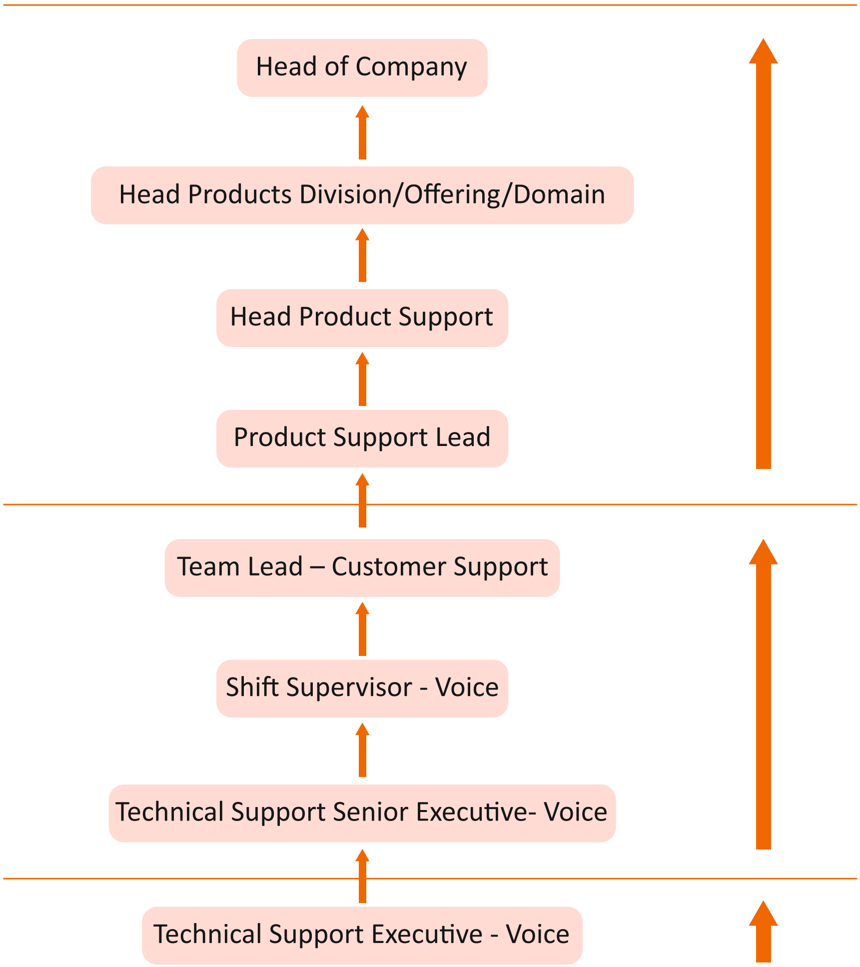


Fig. 1.15 Career Path of a Technical Support Executive - Voice
(Source: IT-ITeS Sector Skill Council NASSCOM)

Summary

- Information Technology (IT) refers to the creation, management, retaining, and transfer of ideas. IT includes all forms of information technology, including computer hardware and software used for digital resources, storage, and transfer.
- The IT industry is a key driver of economic growth globally. IT is used in various sectors like education, manufacturing, hospitality services, communication, medical services, etc.
- The IT industry is broadly divided into IT Services, Business Process Management (BPM), Software Products and Engineering Research and Development.
- IT-BPM industry is categorized as Multinational Companies (MNC), Indian Service providers (ISP) and Global In-house Centres (GIC).
- IT-enabled services include a wide range of operations that uses IT to improve the efficiency of a company/organization. Most major global companies prefer India for outsourcing due to the availability of talented and relatively cheaper manpower.
- Some of the IT-enabled Services are call centres, BPO, KPO, ERP, IT helpdesk services, Human resource services, Back-office operations, Data entry and management, Medical transcription, Telecommunication services, Data warehousing, etc.
- The IT industry is important in every business sector as it automates the processes and systems to reduce time, generate revenue, and increase work efficiency.
- The IT industry in India has provided jobs to millions of people, helped in the growth of the service sector, and has become a major foreign exchange earner.
- The Indian software products industry is expected to post US $30 billion by 2025. The software products exports accounted for 20.78% of the total Indian IT exports during FY21.
- The growing demand, global presence, policy support, and India's competitive advantage in IT is a big benefit.
- The Indian IT sector's core competencies and strengths have attracted talent as well as investment from various countries and companies.
- The Government of India has helped in the advancement of the IT industry by introducing many liberalization policies and other initiatives.
- The government initiatives like setting up Special Economic Zones (SEZ), Export Oriented Units (EOU), Software Technology Parks (STP) and Foreign Direct Investments (FDI) have helped the Indian IT industry to achieve a leading position in the global IT industry.
- Information Technology Software Product Development companies typically develop a new product, upgrade an existing product, or improve a technique, method or process.
- Along with developing software products and selling, they provide consulting, training and support services.
- One of the objectives of every software product company is to create value for its customers by developing useful products and supporting them to use and manage the products.
- Computer software can be defined as a set of instructions that orders a computer what to do.
- It can be broadly classified into two categories as Application Software and Systems Software.
- Software products are software systems delivered to customers with information regarding the installation and use of the system.

- A software product is the result of the complete software development process.
- Software products can be broadly divided into two types generic products and customized products. Generic products are further divided into Commercial-off the shelf (COTS) and Software as a service (SaaS).
- Some of the emerging trends in application development are the Internet of Things (IoT), Artificial Intelligence (AI), Machine Learning (ML), Cloud computing, Wearable devices, Augmented Reality (AR), Virtual Reality (VR), E-commerce, Entertainment, Gaming, Automation, Chatbots, and Big data analytics.
- The entire process starting from planning to the delivery of the software to the user is known as the software development life cycle (SDLC).
- SDLC is used for designing, developing, testing and delivering high-quality software.
- The Waterfall model is the oldest, simplest, and most structured model of SDLC. It is also known as the linear-sequential life cycle model. All the phases run sequentially and each phase depends on the outcome of the previous phase. It gives a tangible outcome at the end of each phase.
- In the Iterative model software requirements are broken down into smaller parts and each cycle produces a partial but deployable version of the software. The first iteration contains a small set of software requirements and every subsequent version adds more requirements to it and the final iteration contains the complete set of requirements.
- The Agile model produces ongoing release cycles, with small incremental changes from the previous release. The product is tested after each iteration, which helps in identifying and resolving issues before they become major problems.
- DevOps is a set of best practices for software development aiming at shortening delivery times for new software updates and at the same time maintaining quality. It has emerged from the agile development model. DevOps is the combination of the word's development and operations. It promotes the collaboration of the development and operations teams.
- The main roles and responsibilities of a technical support executive are to receive service requests from customers through calls, log-in complaints, record and document queries, and resolve requests and incidents.
- Technical Support Executive should have both technical knowledge as well as soft skills to interact with customers and resolve their queries.
- Some of the competencies of a technical support executive are good communication skills, problem-solving ability, critical thinking, customer handling skills, attention to detail and technical skills.
- Most of the Technical Support Executives- Voice enter the industry with 0 to 2 years of experience and typically start their career at the junior level carrying out simple tasks and learning from seniors and other colleagues.
- The person can then get promoted to a middle-level position as a senior executive and later as a shift supervisor and then as a team lead for customer support.
- The person can later enter the managerial or leadership level as a product support lead and aspire to become the head of the company by honing their managerial skills further.

Exercise

Answer the following questions:

1. Explain the relevance of the IT/ITeS Industry.

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2. Write a brief note on the IT software products development industry.

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3. Discuss the career growth opportunities for a Technical Support Executive -Voice.

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Fill in the Blanks:

1. ______________________ refers to the creation, management, retaining, and transfer of ideas.
2. Software products can be broadly divided into two types as __________________ and __________________ products.
3. A Technical Support Executive should have both _______________ knowledge as well as ___________________ to interact with customers and resolve their queries.

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2. Attending Customer Queries

Unit 2.1 - Segments, Tools and Techniques in Technical Customer Service

SSC/N7301

Key Learning Outcomes

At the end of this module, the trainee will be able to:

1. Identify the role and importance of a voice customer service associate in supporting business operations
2. Develop various soft skills to handle customers

Unit 2.1 - Segments, Tools and Techniques in Technical Customer Service

Unit Objectives

At the end of this unit, the trainee will be able to:

1. Identify the various segments in voice technical customer service, tools, and techniques
2. Identify the nature and range of queries related to technical aspects including networking/connectivity, operating system/ software, installation/configuration, etc

2.1.1 Introduction to Technical Customer Service -Voice

Technical customer service is a combination of technical support and customer service. Technical support focuses on diagnosing, troubleshooting, and resolving issues/incidents related to technical products and services whereas customer service focuses on the customer experience. To provide good technical support to customers, the support team members should be equipped with sound technical knowledge and best practices of customer service. Technical support can be either voice-based or non-voice based. In the voice-based process, the customer typically calls using a phone or a video call. In the non-voice-based process, the customer contacts the support team through email, live chat, messaging systems, self-service, social media, etc. Traditionally, customer service was offered through call centres where the support was provided using voice-based platforms. Over time, support is being delivered through various non-voice-based platforms. Each of the platforms fulfils the customer needs in different ways.

2.1.2 Role and Importance of Technical Customer Service - Voice

Today, most individuals, organisations and businesses rely on digital devices and infrastructure for carrying out various tasks and running business operations. Any glitch or issues in the working of the devices or products can lead to loss of business, productivity, efficiency, etc. The customer, therefore, looks forward to getting the problem resolved in an easy, quick, and effective manner. When a problem arises with the product and the software product company fails to provide good quality technical customer service, then it can lose customer loyalty leading to losing the customer and decreased profits for the organisation. Technical assistance is one of the main factors to improve the product experience for a customer. Therefore, it is crucial to provide good technical customer service for the overall success of the company.

2.1.3 Segments in Voice-Based Technical Customer Service

A voice-based technical customer service team with good interpersonal and technical skills are an asset to the business as they will be able to troubleshoot technical issues and provide help to the customers in real-time in most cases. Customers often feel comfortable talking to a person to get their issues resolved rather than typing it out in the form of a message or email and waiting for the support member to respond. In most cases, talking to the customers helps in quicker and better diagnoses of the issue and eliminates the back-and-forth nature of non-voice-based platforms like email. It also helps to take the customers through a series of actions to resolve the issue and get confirmation that the problem is resolved. If the issue does not get resolved instantly, then a suitable complaint gets raised. Companies providing voice-based technical support have to be equipped to cater to customers speaking different languages.

Voice-based technical customer service is mainly provided through call centres. Call centres are equipped to take calls from customers and the calls are first distributed to the available support staff. If the problem cannot be resolved by that person, then it gets redirected to the specific department or support engineer based on the problem. Many large companies have 24-hour call centre services available, smaller companies typically have a 12-hour window for taking calls. Most often these calls are recorded for quality purposes and future use within the legal scope of the organization and the government keeping all the privacy laws in mind.

The following are the segments in voice-based technical customer service**:**

1. Phone Calls

Phone calls are the oldest and have been the most dominant channel for many years and are still the preferred channel by customers to contact the technical support team. Some customers first try to resolve the issues with the help of search engines and self-service aids like knowledge bases, frequently asked questions (FAQs), etc. before calling the technical support team. Often queries raised on live chats and social media get escalated to phone call support.

Benefits	Drawbacks
• Allows customers to interact with the support member on a one-to-one basis. • Provides a personal touch to the interactions. • Helps customers to express themselves clearly. • Allows elderly/senior citizens and illiterate/uneducated people to reach out. • Helps in providing a specific resolution to the issues rather than a generic solution. • Improves the chances of getting the resolution in the first contact with the support team. • Helps to get the correct solution in real-time. • Helps a well-trained support member to mitigate customer dissatisfaction.	• Non-availability of toll-free numbers can make the calls expensive. • Poorly trained support team members can be detrimental. • Language can be a barrier. • Long call holding/waiting periods can annoy customers.

Fig. 2.1 Benefits and Drawbacks of Phone Calls

2. Video Calls

Video calls are becoming popular as a channel for technical support services. In a live video call, the customer will not only be able to talk to the person but also see the person. It also enables the customer and the support executive to share the screen and browse together which helps in resolving complex technical issues beyond the understanding of the customer. In a video call, the support executive can provide resolution through demonstrations which will help the customers to understand the steps to be followed easily. Some of the technical support for common queries and demonstrations can be recorded and used to walk through the customers. It has all the benefits of support given a phone call.

Benefits	Drawbacks
• Makes the interaction more personalized and effective than a phone call. • Helps to resolve the issues quickly thus reducing the resolving times. • Allows recorded videos to be shared with customers.	• Poor internet connections can disrupt the calls. • The creation of resolution and demo videos can be expensive. • Requires a more elaborate set-up to take calls.

Fig. 2.2 Benefits and Drawbacks of Video Calls

3. Interactive Voice Response (IVR)

IVR allows customers to dial a number and interact using voice or a keypad. IVR have to be programmed in such a way that it helps to route the customers to the correct support team members to resolve a particular issue. For example, a company selling multiple products like laptops, desktops, mobile phones, tablets, etc. can route the call according to the product category that the customer wishes to choose. This can help the customer to reach out to technical support who has expertise related to a particular product. It can be used to book an appointment to talk to a support member or input details like customer details, product details, issues faced, etc. before assigning a support staff, thus shortening the interaction time.

Benefits	Drawbacks
• Helps to improve call traffic flow and save time. • Provides 24/7 assistance to customers for services like booking an appointment, raising a complaint, etc. • Helps to register an automated callback option to reach out to the customers at their convenience.	• Poorly designed IVR can lead to customer frustration. • Requires heavy investment upfront. • Requires changes as when the products/services are altered. • Suitable only for basic customer queries and not to resolve complex issues.

Fig. 2.3 Benefits and Drawbacks of Interactive Voice Response (IVR)

4. Voice Bots and Voice Assistants

Voice bots and voice assistants are programmed based on voice commands and powered by conversational artificial intelligence. It allows the computer to listen, analyse, understand, and respond to customer queries. They give a sense of talking to a real person. If the voice bot cannot answer a query, then it has the option of transferring the query to a human technical support executive who can resolve the issue. Voice bots are gaining popularity in customer service because of the convenience and efficiency it provides. The advancements in text-to-speech, speech-to-text and voice recognition technologies have also promoted the growth of voice bots.

Benefits	Drawbacks
Provides 24/7 assistance to customers. Provides information quickly and efficiently. Helps to manage and resolve routine queries. Multilingual voice bots help remove the language barrier.	Failure to understand the nuances of different languages, accents and human speech. Failure to decipher the meaning of the question may lead to errors. Requires frequent maintenance and optimization to ensure the correct delivery of information. Lack of personal touch and display of emotion can lead to customer dissatisfaction.

Fig. 2.4 Benefits and Drawbacks of Voice Bots and Voice Assistants

2.1.4 Tools Used for Voice-Based Technical Customer Service

Customer service software help companies provide advice, support and assistance to their customers. It provides a centralized ticketing system which helps the support team to track, categorise, prioritise, manage, respond and resolve customer queries. There are different types of software available for voice-based and non-voice-based technical support platforms. Most of the customer service software is integrated with live chat, shared inbox, social media, etc.

a. Tools for technical customer service through phone calls:

Call centre software can be used for managing large volumes of inbound and/or outbound phone calls. Inbound calls involve the process of receiving calls placed by the customers for inquiries, technical support, order processing, after-sales support, etc. Outbound calls are typically made by the customer service team for sales, marketing, customer survey, conducting research, interviewing people, etc. Call centre software can be designed for outbound or inbound phone systems.

When a customer calls a typical call centre software routes calls, collects customer information, transfers calls to other channels, etc. It helps to improve the quality of the phone support service and decrease operating costs. Inbound call centre software helps the technical support staff access customer data, route customer calls as required and track the progression of calls.

Fig. 2.5 Tools for technical customer service through phone calls

(Image Source - https://www.evs7.com/call-center/equipment-needed-run-call-center)

Some of the emerging trends in software development are:

Interactive Voice Response (IVR) system for routing calls

Call Recording and Monitoring system to track every interaction for better quality control

Integration with Customer Relationship Management (CRM) to have all the cutomer data on a single platform

Continued...

Dashboard to monitor the key performance indicators (KPI) of the team members

Customer feedback management system to know the scope for improvement.

Alerts/escalation feature to forward the call when original support member is unable to resolve the issue to a supervisor or another support member to resolve

Fig. 2.6 Features of Inbound Call Centre Software

Some of the call centre software are Zendesk, LiveAgent, CloudTalk, ZohoDesk, HappyFox, etc.

b. Tools for technical customer service through video calls:

The video call technology tool allows face-to-face interactions online between customers and the support team. This technology uses Voice over Internet Protocol (VoIP) technology and Web Real-Time Communication (WebRTC) for browser-based applications.

Some of the video-call technology used are Zoom, Skype, Google Hangouts, etc.

2.1.5 Skills and Techniques to Handle Customers

A Technical Support Executive -Voice should follow the steps below while handling and resolving customer queries:

Greet customers, collect and verify details as per company protocols.

Understand, summarize and get customer confirmation regarding the query raised by them.

Register the complaint, express concern if there are any difficulties.

Show commitment to solve the problem.

Use management tools to classify and prioritize the queries as per organization policies.

Continued...

Resolve queries as per Service Level Agreement (SLA).

If required, search knowledge base for solutions

If the query is beyond the area of competency, obtain help from others and escalate the problem to the higher-up.

After resolving the issues, get confirmation from customers if their queries have been resolved to their satisfaction.

Maintain documents and comply with company policies and procedures.

Fig. 2.7 Steps to Handle and Resolve Customer Queries

1. Greeting Customers:

Welcoming customers is the first step in building a long-term relationship with the customer. Always remember at the start of the call to ask relevant questions to understand the queries, and then respond. The following are some of the tips to greet customers:

Start with "Good morning/afternoon/evening!

Welcome to XYZ customer support, I am ABC, what is your name?

Thanks for calling!

How can I be of help to you ?

Fig. 2.8 Ways to Greet Customers

2. Expressing Concern and Showing Commitment to Resolve Queries:

Most often users are tense when a problem crops up and are worried about the time and money required to resolve the issue. Therefore, it is important to reassure the customers that the problem will be solved at the earliest with minimum inconvenience. Some of the ways to express this concern are as shown below:

- I absolutely agree with you, that you are facing a lot of difficulty due to the issue. We will certainly sort it out for you.
- I am sorry about the inconvenience it has caused to you, we will resolve this at the earliest.
- I would have felt the same way that you are feeling now, but be assured that we will sort this out for you.
- It is great that you were able to resolve the issue yourselves, feel free to contact us if you need any further assistance
- Thanks for your feedback and alerting us about this issue. We will try our best to fix the issue.

Fig. 2.9 Ways to Express Concern and Show Commitment to Resolve Queries

3. Getting Information from Customers and Guiding them to Take Action:

It is important to get as much information from the users to resolve problems quickly and efficiently. Customers are often not technically competent and will not be able to understand the various jargon used, therefore, it is the responsibility of the support staff to request more information without making the customer feel low. This is very important when the issue is being resolved remotely and instructions are given to the customer over the phone or live chat. In such a situation, the customer would be following the step-by-step instructions given, hence a positive encouraging tone should be used and never show any frustration if the user does not follow the instructions quickly. Some of the ways to do this are:

- Could you please tell me what you can see on the screen, so that I can determine the cause.
- After an action is taken by the user, I am happy you could do that, could you please read out the message being displayed now!
- From the description you are providing, this is the issue that you may be facing, therefore, it would be excellent if you can do this (give instructions).
- That was an excellecnt description of the issue that you have given, I recommend you follow these steps (give instructions).

Fig. 2.10 Ways to Get Information and Guide Customers

4. Closing a Call:

The way in which the call is concluded is important as this is the last interaction with the customer for the current call. All conversations may not be the same, some customers may be extremely happy with the service and some others may be angry and dissatisfied, still, the call has to be ended politely. Some of the ways to close the call are as follows:

- Let me know if I can be of any other help! Thanks for calling
- Look forward to serving you again! Have a great day
- I am very pleased that we could be of help to you, please call again if you need any assistance
- Is there anything else that I can do for you?
- Thanks for calling us today. Could you please give us your feedback.

Fig. 2.11 Ways to Close a Call

Notes

2.1.6 Types of Customer Queries

Customer queries can be mainly classified as technical queries and general queries. The technical queries are related to technical issues that can range from simple issues like resetting a password to troubleshooting an application error. Different levels of technicians will have the ability to resolve various technical issues. The general queries are related to issues related to call handling techniques and typically need good soft skills to resolve.

Some of the queries related to technical issues that come from the customers could be related to the following broad areas:

Hardware Issues	Network/Connectivity Issues
USB port not working Fans not working Blank monitor Continuous beeping Device not switching on Keyboard issues Noisy device Noisy harddrive Blue Screen of Death (BSOD)	Slow network Poor Wi-Fi signals High Central Processing Unit (CPU) usage Broken connections due to damaged cables Changes in device configuration Server hardware failure Incompatibility between firmware and hardware Human errors Power outages Domain Name System (DNS) problems Internet Protocol (IP) address issues Virtual Private Network (VPN) problem

Configuration Issues	Installation Issues
Invalid configuration information Failure of CMOS battery CMOS display mismatch System configuration and setup failure Noisy device Noisy harddrive Blue Screen of Death (BSOD)	Device not found Bus timeout Bad file error Spurious interrupt Network File System (NFS) server not responding Setup unable to create new partition Setup does not recognise hard drive Missing drivers

Operating System (OS) Issues	
Due to software	**Due to hardware**
Virus	Overheating
Improper drivers	Failure of motherboard
Thrashing	Faulty RAM chip
Registry corruption	Faulty processr
Failure to boot	
Slow performance of the system	
Compatibility issues	

Fig. 2.12 Type of Technical Issues

Some of the queries related to general issues that are raised by customers are:

- Multiple calls to resolve an issue
- Support staff lacking professionalism
- Company taking too long to respond
- Support staff not competent to resolve the problem
- Issue not getting resolved even after multiple attempts
- Constant call drops or transfers from one agent to another
- Wrong product offer
- Poor after sales/service follow-up

Fig. 2.13 Types of General Issues

Summary

- Technical customer service is a combination of technical support and customer service. Technical support focuses on diagnosing, troubleshooting, and resolving issues/incidents related to technical products and services whereas customer service focuses on the customer experience.
- Technical support can be either voice-based or non-voice based. In the voice-based process, the customer typically calls using a phone or a video call. In the non-voice-based process, the customer contacts the support team through email, live chat, messaging systems, self-service, social media, etc.
- Today, most individuals, organisations and businesses rely on digital devices and infrastructure for carrying out various tasks and running business operations.
- Any glitch or issues in the working of the devices or products can lead to loss of business, productivity, efficiency, etc.
- When a problem arises with the product and the software product company fails to provide good quality technical customer service, then it can lose customer loyalty leading to losing the customer and decreased profits for the organisation.
- A voice-based technical customer service team with good interpersonal and technical skills are an asset to the business as they will be able to troubleshoot technical issues and provide help to the customers in real-time in most cases.
- Voice-based technical customer service is mainly provided through call centres. Call centres are equipped to take calls from customers and the calls are first distributed to the available support staff.
- The various segments in voice-based technical customer service are phone calls, video calls, IVR, and voice bots/voice assistants.
- Phone calls are the oldest and have been the most dominant channel for many years and are still the preferred channel by customers to contact the technical support team.
- Video calls are becoming popular as a channel for technical support services. In a live video call, the customer will not only be able to talk to the person but also see the person.
- VR allows customers to dial a number and interact using voice or a keypad. IVR have to be programmed in such a way that it helps to route the customers to the correct support team members to resolve a particular issue.
- Voice bots and voice assistants are programmed based on voice commands and powered by conversational artificial intelligence. It allows the computer to listen, analyse, understand, and respond to customer queries.
- Customer service software help companies provide advice, support and assistance to their customers. It provides a centralized ticketing system which helps the support team to track, categorise, prioritise, manage, respond and resolve customer queries.
- Call centre software can be used for managing large volumes of inbound and/or outbound phone calls.

- When a customer calls a typical call centre software routes calls, collects customer information, transfers calls to other channels, etc.
- The video call technology tool allows face-to-face interactions online between customers and the support team. This technology uses Voice over Internet Protocol (VoIP) technology and Web Real-Time Communication (WebRTC) for browser-based applications.
- Welcoming customers is the first step in building a long-term relationship with the customer. Always remember at the start of the call to ask relevant questions to understand the queries, and then respond.
- Most often users are tense when a problem crops up and are worried about the time and money required to resolve the issue. Therefore, it is important to reassure the customers that the problem will be solved at the earliest with minimum inconvenience.
- It is important to get as much information from the users to resolve problems quickly and efficiently. Customers are often not technically competent and will not be able to understand the various jargon used, therefore, it is the responsibility of the support staff to request more information without making the customer feel low.
- The way in which the call is concluded is important as this is the last interaction with the customer for the current call.
- Customer queries can be mainly classified as technical queries and general queries.
- The technical queries are related to technical issues related to networking/connectivity, hardware, configuration, installation, operating system, etc.
- The general queries are related to issues related to call handling techniques and typically need good soft skills to resolve.

Exercise

Answer the following questions:

1. Write a brief note on voice-based technical customer service.

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2. Which are the different segments of voice-based technical customer service?

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3. Discuss the different types of technical issues.

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____
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Fill in the Blanks:

1. In the ____________________ process, the customer typically calls using a phone or a video call.
2. ___________________________ allows customers to dial a number and interact using voice or a keypad.
3. Customer queries can be mainly classified as ____________________ and ___________________ queries.

QR Code

Scan the QR Code to watch the related video

https://youtu.be/X-kOBPApBMA

Unit 2.1 - Segments, Tools and Techniques in Technical Customer Service

IT - ITeS SSC
NASSCOM

3. Skills for Query Management

Unit 3.1 - Customer Query Management

SSC/N7301

Key Learning Outcomes

At the end of this module, the trainee will be able to:

1. Categorize queries accurately using a query management tool
2. Design methods of proper query resolution within their area of competence or authority in line with standard guidelines and service level agreements (SLAs)

Unit 3.1 - Customer Query Management

Unit Objectives

At the end of this unit, the trainee will be able to:

1. Identify different software needed for query management and tracking
2. Refer to experts/trainers for solutions to queries, where available
3. Discuss with supervisor or quality assurance team, where necessary to find solution for a specific query

3.1.1 Introduction to Customer Query Management

A customer query is a request made by a customer or a prospective customer regarding the information on a product or services; or regarding issues related to transactions, installations, upgradation, non-performance of products, etc. The primary function of a customer support team is to register, record and resolve customer queries. Depending on the channel through which the query is received and also the severity of the issue a response is generated.

As customers are an integral part of any business, it is very important to attract and retain customers and handle and serve them well to satisfy and make them loyal to the organization. All these can be achieved by proper customer query management. The support team is responsible for resolving customer issues in a timely and efficient manner. The various tasks of the customer support team like collecting data, registering queries, resolving issues, etc. can be carried out using various query management tools and techniques. Effective customer service support management can increase customer satisfaction and brand loyalty. Some of the steps to manage customer queries are as follows:

Managing work flow

- By clearly defining role and responsibilities of all the support team members.
- Providing details of all the tools available.
- Properly defining escalation procedures.
- Implementation of ticketing system.
- Assigning appropriate people to various categories, channels and tasks.

Prioritization of customer queries

- Based on type of customers like, internal, external, most valuable, least valuable customers, etc.
- Based on first-come, first-serve approach
- Based on the channel through which the query has come like phone, live-chat, email, etc.

Continued...

Categorization of queries

- Based on various issues like hardware, software, applications, OS or others.
- Based on the severity and frequency like, common, frequent, critical and emerging.
- Based on the experience of the support staff like main support agent, experienced staff, specialist, etc.

DYI approach

- Enabling the users to solve minor/simple problems by providing knowledge base and encouraging self-service or do-it-yourself approach.

Tracking support team performance

- Checking and analysing the data related to average response and handling time, average resolution time, ticket closure rate, etc.
- Incorporating feedback of customers along with the above key performance indicators to identify gaps and improve performance of staff.

Fig. 3.1 Steps to Manage Customer Queries

Notes

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3.1.2 Tools for Query Management

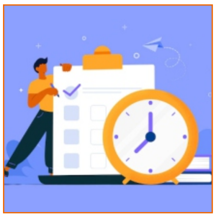
Customer service software comprises many tools that help organisations to manage customer queries efficiently. The software provides a centralised system called the ticketing system which helps to track, prioritize, manage and resolve customer queries. A few of the tools help the support executives to escalate unresolved issues to seniors, other team members and experts. Customer service software can be integrated with the Customer Relationship Management (CRM) tool to help the support team to access some of the past data related to the customer. Some of the tools available are:

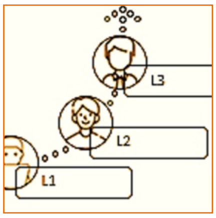
Channels for users to contact the company

Ticketing system

Customer portals

Time tracker





Task escalation

Customer feedback system

Continued...

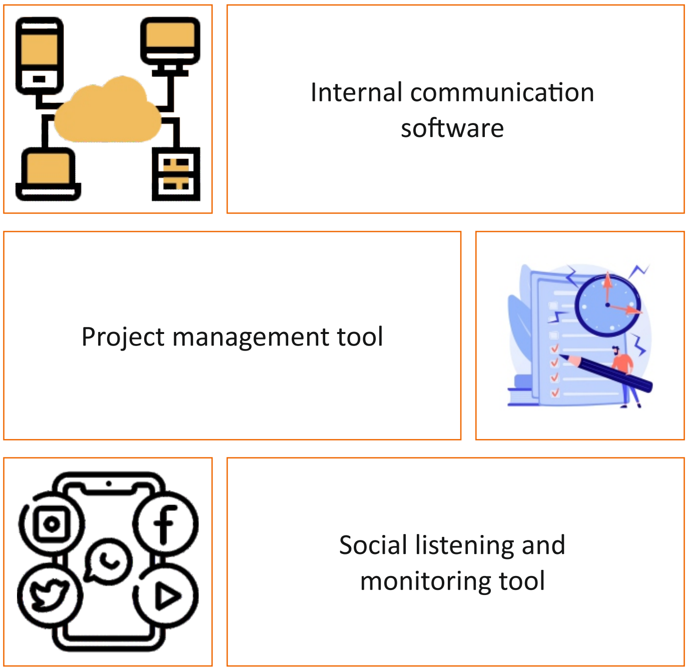


Fig. 3.2 Tools for Customer Query Management

1. Channels for users to contact the company

Companies provide various routes for customers to approach them. It can be in the form of service centres, call centres, live chats, email, etc.

Multinational Companies (MNC)	• It is a place where the customers can bring their devices to resolve issues. Service centers typically diagnose, troubleshoot, maintain and repair devices. They may be managed by the parent company or by a third-party vendor.
Call centers	• Call centers are equipped to take calls from customer and the calls are first distributed to the available support staff. If the problem cannot be resolved by that person, then it gets redirected to the specific department or support engineer based on the problem.
Live chat	• Companies provide for live chat services either on their websites or social-media platforms, which allows customers to quickly reach out the support engineers. Live chats can be through text, audio or video chats. This is one of the most efficient and frequent ways to track customer queries, manage feedback and maintain quality.

Continued...

Email

- Most companies provide the option of asking queries and lodging complaints via email at their convenience. The emails are categorized based on the issue and directed to different departments and support engineers. Many companies also use email ticketing systems, which have features like shared inbox, email categorization and delegation, automation, reporting, etc.

Fig. 3.3 Various Channels for Users to Contact Company

2. Ticketing system

Technical Support Executives can use ticketing systems as a single interface to respond to queries efficiently. When a complaint/query is received from a customer through any channel like phone, email, live chat, social media, etc., it is turned into a ticket. All these tickets go into one single inbox (universal inbox). Further, these tickets are assigned to different departments and support executives based on the problem. The ticketing system helps to log tickets, streamline the workflow, and categorize and prioritize tickets to reduce response time.

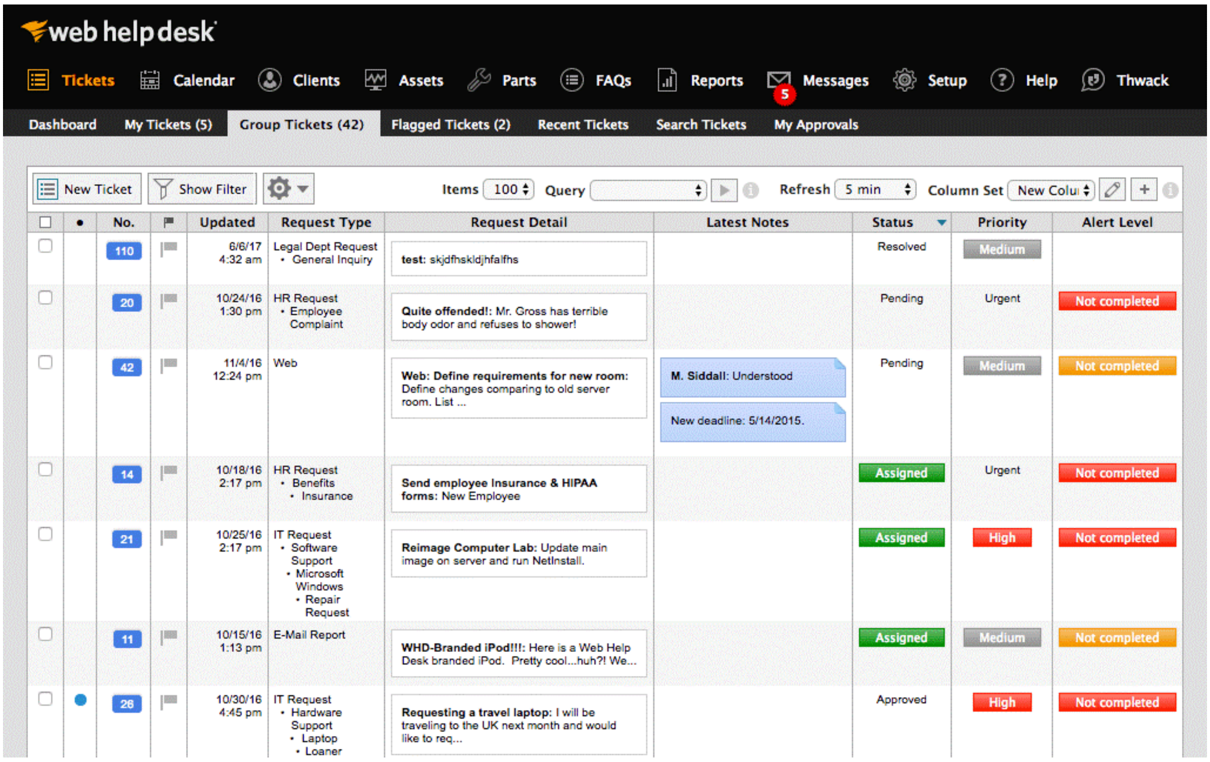


Fig. 3.4 Image of a Ticketing Page

The above screenshot is a representation of a ticketing system used by the technical support team of an organization for the queries raised by their staff.

In the first line, the 'Tickets' tab in red, indicates that the ticketing page is open.

In the second line, the details of the type of tickets are shown:

- My tickets (5)- shows the number of tickets assigned to a particular Technical Support Executive.
- Group tickets (42) – shows the number of tickets assigned to a particular team.
- Flagged tickets (2) – shows that a particular ticket needs attention
- Recent tickets- show the latest tickets that and search tickets help to search for any particular ticket.
- The columns show details like the Ticket number, date and time when the query has been updated, the type or category of request/query (HR-related issue, legal issue, IT-related issue, etc.), status

3. Customer portals

Customer portals can be used to share information, answer common queries and resolve certain complaints and issues which can be tackled by the customers themselves. These are mostly available in the form of frequently asked questions (FAQs), information databases, knowledge bases, blogs, how-to-do videos, tutorials, community forums, etc. This helps in reducing the traffic at call centres and live-chat channels. It also provides complete visibility to the customers regarding their interactions with the company. Some of the portals can also help in creating and tracking tickets, managing purchase orders, tracking order deliveries, etc.

A knowledge database contains information related to the resolution of some technical issues. Support executives can take the help of the supervisors or access the knowledge base to find solutions for the issues that they are unable to resolve.

4. Time tracker

Many systems employ the time tracker or time stamping feature to record the time when a customer query was raised and when a response was given. This helps internally to understand the time taken to resolve a particular type of issue and also for legal purposes

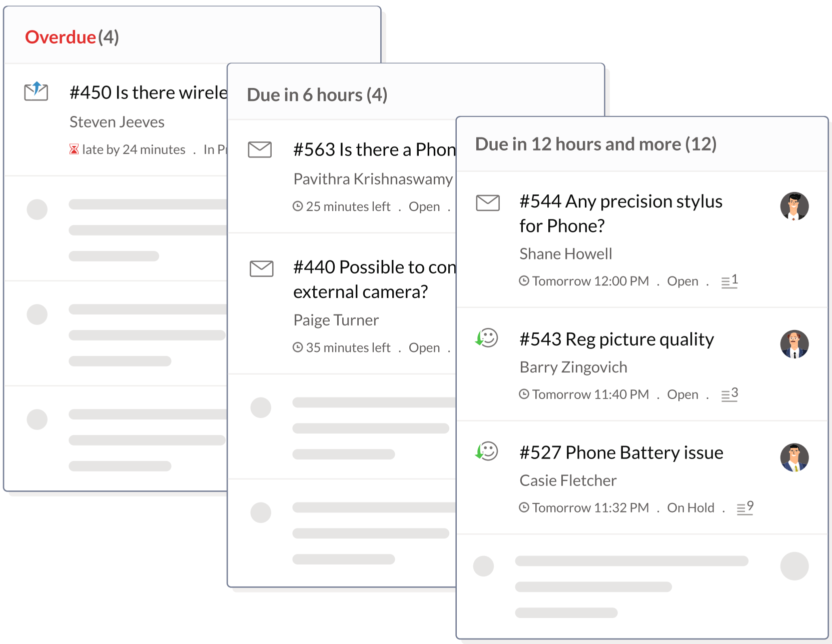


Fig. 3.5 Image of a Zoho Time Tracker

5. Task escalation

Task escalation is the flow of work or tasks between different levels. The technical support team is typically subdivided into tiers or levels to serve the customers better. The number of levels and the responsibilities of each level depends on the organization and its needs. The reason for having multiple levels is to provide service efficiently. Task escalation can happen automatically after a certain time limit or if the task cannot be resolved by a support executive, then it gets escalated to other members based on their competency or to specialists. The figure below shows the typical task escalation hierarchy in a three-level technical support system:

Level 1 (L1)

L1 team members collect customer queries/issues, analyze them, identify the problem and provide the first line of support. L1 support is responsible for basic troubleshooting of hardware, software, and networking systems, handling simple problems like retrieving passwords, uninstalling and reinstalling software basic applications, creating user email accounts, user account unlocking, FAQ support and reporting customer feedback, follow-up with clients, etc. People at this level have basic knowledge and understanding of the product and service and do not necessarily have the ability to solve complex issues. They are responsible to handle 70-80% of the customer issues before escalating them to L2 or L3 levels.

↓

Level 2 (L2)

L2 team members handle the tickets given by L1 members and are more knowledgeable and experienced than L1 technicians. Before resolving the issue, the L2 technician has to review the ticket to see how much of the issue has already been resolved by the L1 technician and for how long the ticket has been open. This helps in prioritizing, managing time, and meeting the customer and company expectations. They are responsible for checking integration issues with hardware and software, replacement of hardware components, simulation, route cause analysis, diagnostic testing, software repair, etc. if an issue cannot be solved at this level, then, it gets escalated to the L3 level.

↓

Level 3 (L3)

L3 team members provide the highest level of support and are responsible to resolve the most difficult issues/problems. They are the experts in troubleshooting and along with assisting L1 and L2 technicians, they are responsible for the research and development of solutions to unknown or new problems. The L3 technicians should have adequate knowledge of the code or backend of the product and carry out remote troubleshooting, bug management, regression testing, training, knowledgebase up-gradation, etc. In some cases, the L3 technicians may also not be able to solve the issues and it may have to be sent to the original developers for in-depth analysis.

Fig. 3.6 Task Escalation Hierarchy

6. Customer feedback

After the issue has been resolved, the general practice of any organization is to receive customer feedback to check if the issue has been solved within the given timeframe and to know if the customer is satisfied. It also helps to rate the support executive who has performed the job and the overall complaint handling and resolving system. The information thus obtained can also be used for further improvements in the organizational service processes.

XYZ Company

Customer Feedback Form

1. What type of product/service did you recently contact XYZ customer support?

    O Purchasing a new product

    O To upgrade an application

    O To report a problem

    O Any other query

2. How was the issue resolved?

    O With the help of XYZ Support

    O With the help of a knowledge base

3. How was your experience with XYZ company in comparison with other companies?

    O Better

    O Same

    O Worse

    O Unsure

4. How would you rate the overall quality of the support received from XYZ?

    Poor O O O O O Excellent

5. How would you rate the efficiency of XYZ customer support?

    Poor O O O O O Excellent

6. How often have you reached out to the XYZ support team?

    O Only once

    O 1-5 times

    O More than 5 times

7. Please provide any other suggestions to improve the quality of Customer Service of XYZ Company.

Fig. 3.7 Sample Customer Feedback form

7. Internal communication software

Internal communication software helps to collaborate with other colleagues, team members, supervisors and experts from within and outside the department/function to have a quick and contextual discussion. The main features of this tool are:

- Instant messaging facility, where users can message others on a one-on-one or group basis.
- Activity feed to update users on new messages, chats, or calls sent to them.
- Status update to indicate the users' availability, such as in a call, available, do not disturb, etc.
- File sharing and storing facility, where users can share the link for files hosted in the cloud or attach files, which helps in sharing files easily and quickly.
- Audio and video chats and conferencing facility to make one-on-one calls and group calls, which helps to resolve issues in real time.
- Screen sharing facility, which helps people to share documents, videos, audio clippings, etc. during group meetings and online presentations and conferences.

Some of the benefits of internal communication software are:

- **Provides instant communication between team members**
- **Helps in sresolving issues in real-time with input from others**
- **Allows teams to connect remotely from any location**
- **Helps in connecting the organisation horizontally and vertically**
- **Provides a less formal setting and avoids use of emails and long calls**

Fig. 3.8 Benefits of Internal Communication Software

8. Project management tool

The project management tool helps the support team provide excellent customer support and meet their deadlines and goals. It also allows people to share documents and collaborate with all the stakeholders in tackling and resolving customer queries.

Some of the common features of a project management tool are:

Planning and scheduling feature helps to make a list of tasks to be performed and deadlines to be met. Thus, reducing project delays and ensuring timely delivery of products and services.

Continued...

Notification and update tasks feature helps in notifying and alerting the users of upcoming deadlines, the timeline for approvals, issues and bottlenecks in the project, etc.

Communication feature helps in collaborating between teams to create awareness of the progress of the project.

Project monitoring feature helps in monitoring aspects like the amount of budget spent, percentage of work completed, comparison of the target work versus the completed work, etc.

Document and report generation feature helps to generate reports, graphs, charts, and summary reports which in turn helps to analyze and evaluate the performance.

Fig. 3.9 Features of Project Management Tool

9. Social listening and monitoring tool

The social listening and monitoring tool keeps a track of all the conversations that are happening on various social media platforms regarding the organization and brands. It helps to note all the positive and negative comments of the competitors as well. This can be used to help in the betterment of the organization and attract new customers. The monitoring tool can help to identify queries and respond quickly before it generates a negative comment or feedback about the company.

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3.1.3 Categorizing Customer Queries Using Query Management Tools

Efficient and quick responses to customer queries can be achieved by using query management tools. For some common queries which can be solved by the users themselves, an automated response with a web link to the knowledge base for self-help will be provided by the software system. Whereas for queries that require the assistance of the support team, the tool categorizes the queries and then with the help of the ticketing tool allocates the task to a specific support executive/department.

The following figure shows the general categorization of customer queries:

Category	• Hardware, Software, Network, Database, etc.
Type	• Printer, OS, Router, etc.
Item	• Service, Replace, Upgrade, etc.
Issue/Fault	• Computer not switching, Printer not printing, WiFi unable to connect, etc.
Request type and description	• Purchase, service, general request, etc.
Priority	• High, medium, low, etc.

Fig. 3.10 Categorization of Customer Queries Using Query Management Tool

Most of these tools have inbuilt tabs and dropdown menus from which the support person can log in the queries. Categorization also helps in systems that have an inbuilt task escalation tool.

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3.1.4 Service-Level Agreement

A service level agreement (SLA) is a contract between the service providers and their customers. The document contains the details of the services and the service standards the provider is obligated to fulfil. The various aspects of services like responsibilities, quality, availability, etc. are agreed upon between the customer and the service provider. It is used in telecommunications, application service providers, information technology, and internet service providers agreements. An SLA typically defines the level of service provided and the penalties/remedies in case the promised service level expectations are not met. A typical SLA consists of:

- Purpose or objectives of SLA
- Description of the service
- Performance standards
- Payment terms
- Duration of the service
- Closure/termination conditions
- Details of warranty, insurance and other legal issues

Fig. 3.11 Contents in an SLA

The key aspects of SLA are accountability, performance levels, and compensation.

Accountability	Performance	Compensation
• It defines the responsibilities of the service provider and the customer.	• It sets the expectations on how the requirements of the agreement will be fulfilled.	• It defines the fine to be paid when the performance does not meet the agreed-upon level.

Fig. 3.12 Key Aspects of SLA

Types of SLA:

Typically, users can be individual customers, a group of customers or an entire business/company. The requirements of each of these categories of people differ, therefore different types of SLAs are required. They are:

Customer-based SLA

- It is an agreement made between an individual customer and the service provider. It is a single contract in which all the details of relevant services and service quality that the customer needs will be mentioned.

Service-based SLA

- It is an agreement which consists of a single type of service that is applicable to all its customers.

Multi-level SLA

- It is an agreement customised to fulfil the requirements of corporates and specific group of customers. It incorporates serveral conditions into the same system. It is further divided into corporate level, customer level and service level.

Fig. 3.13 Types of SLA

Summary

- A customer query is a request made by a customer or a prospective customer regarding information on a product or services; or regarding issues related to transactions, installations, upgradation, non-performance of products, etc.
- As customers are an integral part of any business, it is very important to attract and retain customers, and handle and serve them well to satisfy and make them loyal to the organization. All these can be achieved by proper customer query management.
- The various tasks of the customer support team like collecting data, registering queries, resolving issues, etc. can be carried out using various query management tools and techniques.
- Customer service software comprises many tools that help organisations to manage customer queries efficiently. The software provides a centralised system called the ticketing system which helps to track, prioritize, manage and resolve customer queries. A few of the tools help the support executives to escalate unresolved issues to seniors, other team members and experts.
- The various channels for users to contact the company are service centres, call centres, live chats, email, etc.

- Technical Support Executives can use ticketing systems as a single interface to respond to queries efficiently. When a complaint/query is received from a customer through any channel like phone, email, live chat, social media, etc., it is turned into a ticket.
- Customer portals can be used to share information, answer common queries and resolve certain complaints and issues which can be tackled by the customers themselves. These are mostly available in the form of frequently asked questions (FAQs), information databases, knowledge bases, blogs, how-to-do videos, tutorials, community forums, etc.
- A knowledge database contains information related to the resolution of some technical issues. Support executives can take the help of the supervisors or access the knowledge base to find solutions for the issues that they are unable to resolve.
- Many systems employ the time tracker or time stamping feature to record the time when a customer query was raised and when a response was given. This helps internally to understand the time taken to resolve a particular type of issue and also for legal purposes.
- Task escalation is the flow of work or tasks between different levels. The technical support team is typically subdivided into tiers or levels to serve the customers better. The number of levels and the responsibilities of each level depends on the organization and its needs. The reason for having multiple levels is to provide service efficiently.
- After the issue has been resolved, the general practice of any organization is to receive customer feedback to check if the issue has been solved within the given timeframe and to know if the customer is satisfied.
- Internal communication software helps to collaborate with other colleagues, team members, supervisors and experts from within and outside the department/function to have a quick and contextual discussion.
- The project management tool helps the support team provide excellent customer support and meet their deadlines and goals. It also allows people to share documents and collaborate with all the stakeholders in tackling and resolving customer queries.
- The social listening and monitoring tool keeps a track of all the conversations that are happening on various social media platforms regarding the organization and brands. It helps to note all the positive and negative comments of the competitors as well.
- For queries that require the assistance of the support team, the tool categorizes the queries and then with the help of the ticketing tool allocates the task to a specific support executive/department.
- A service level agreement (SLA) is a contract between the service providers and their customers. The document contains the details of the services and the service standards the provider is obligated to fulfil. The various aspects of services like responsibilities, quality, availability, etc. are agreed upon between the customer and the service provider.
- The key aspects of SLA are accountability, performance levels, and compensation.
- Typically, users can be individual customers, a group of customers or an entire business/company. The requirements of each of these categories of people differ, therefore different types of SLAs are required.
- Query resolution has to be planned within the area of competence or authority and in line with standard guidelines and service level agreements (SLAs).

Exercise

Answer the following questions:

1. Discuss the steps to be taken to manage customer queries.

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2. Write a brief note on the different query management tools.

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3. Write a brief note on the Service-Level Agreement (SLA).

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Fill in the Blanks:

1. The ________________ helps to log tickets, streamline the workflow, and categorize and prioritize tickets to reduce response time.
2. ___________________ communication software helps to collaborate with other colleagues, team members, supervisors and experts from within and outside the department/function to have a quick and contextual discussion.
3. A _____________________ is a contract between the service providers and their customers.

QR Code

Scan the QR Code to watch the related video

https://youtu.be/W8GjZnoN0Ik

Unit 3.1 - Customer Query Management

4. Deal with Customer Queries

Unit 4.1 - Dealing with Customer Queries Using CRM Tools and Systems

SSC/N7301

Key Learning Outcomes

At the end of this module, the trainee will be able to:

1. Identify the correct alternative solution from customer relationship management (CRM) tools and systems
2. Examine the purpose of different questioning techniques for understanding customer queries

Unit 4.1 - Dealing with Customer Queries Using CRM Tools and Systems

Unit Objectives

At the end of this unit, the trainee will be able to:

1. Discuss the importance of documenting, classifying and prioritizing customer queries
2. Discuss the importance of keeping customers informed about timescales for progress and resolution of customer queries

4.1.1 Customer Relationship Management (CRM) Tools and Systems

CRM can be defined as creating, maintaining, and expanding customer relationships. It can be used as a medium to ensure that customers remain loyal to the company. CRM can be used as a tool and strategy to get customer data and turn that into useful inputs for the organisation's functioning to deliver a satisfactory experience to the customer. Therefore, it is designed to engage with customers, track and understand their requirements and serve them. To achieve this, the first step is to gather relevant data from customers through different channels like telephone, email, social media, etc. This helps the organization to learn more about the customers and how to cater to their needs. CRM is basically about managing customer relationships effectively using strategy and technology. The use of technology alone in the form of CRM software/systems will not help, a good strategy is also important. There are various tools available for CRM like Zoho CRM, Salesforce CRM, Oracle NetSuite, monday.com, etc.

In a CRM system, all the various tools of customer management are integrated into one place. CRM helps irrespective of whether the customer is internal or external, consumer or business. It also helps to reach out to consumers across the globe, be it on-site, on the phone, face-to-face, over email, or on social media. The main benefits of CRM are:

It helps to manage customer relationships in an organized manner.

It helps in all types of interaction the organization has with its customers in terms of marketing, sales and service.

It helps in identifying, getting and retaining customers.

It helps in understanding the customer behaviour, which in turn helps in the growth and profitability of the company.

It helps in implementing customer-centric processes, which increases customer satisfaction.

Fig. 4.1 Benefits of Customer Relationship Management (CRM)

Types of CRM

The main types of CRM are Strategic, Operational, Analytical, and Collaborative CRM.

Strategic

- It is a customer-centric business strategy that helps in winning and keeping profitable customers. It helps to customise the interactions with customers in the long run.

Operational

- It focuses on customer-facing processes like marketing, sales and customer service. It allows to structure information related to the customers and set standard procedures. This helps to have all the information in one place thus minimising miscommunication between departments.

Analytical

- It is the process of converting customer-related data like their preferences, needs, etc. into strategic business purposes, which help in making better decisions. It is like a data store house where data is present in an organised manner which can be statistically analysed.

Collaborative

- It allows different teams, external stakeholders, suppliers and distributors to communicate and share information. It helps the entire organisation to optimise customer service to increase their satisfaction rate.

Fig. 4.2 Types of Customer Relationship Management (CRM)

CRM Process Flowchart

The process flow chart of a CRM system from the time a customer calls the company and the case is closed. It shows the various stages at which the ticket is raised, the process for task escalation, and the updation of details in the CRM system. As discussed in the previous modules, there are different levels of technical support available in organisations like L1, L2, L3, etc. Typically, when a call is placed, it gets picked by a level 1 or L1 support agent, who questions the customer regarding the issue being faced, raises a ticket and tries to resolve the issue or routes it to appropriate teams/escalate to higher levels. The process flowchart for resolving customer queries is shown below:

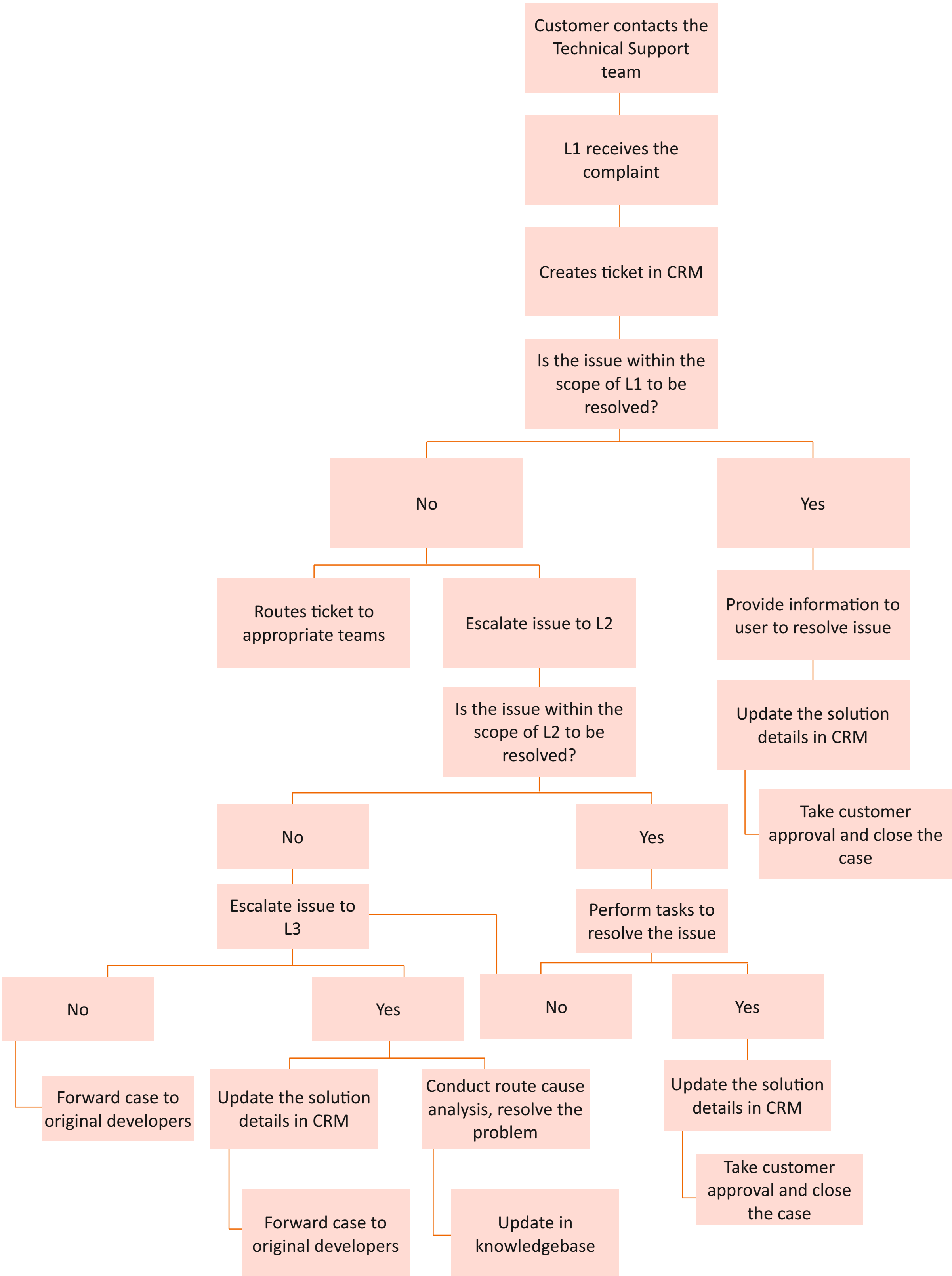

Fig. 4.3 Process Flowchart of Customer Relationship Management (CRM)

4.1.2 Questioning Techniques for Understanding Customer Queries

Questioning techniques involve the process of asking the right questions to get the right and correct information from customers to resolve their issues efficiently and effectively. This helps to improve the customer experience as well as satisfaction. There are different types of questioning techniques, they are as follows:

1. Closed questions

Closed questions are those that get short, one-word answers, a 'yes' or 'no'. A closed question may also include multiple choices from which the customers can choose the required options. Closed questions are good for starting and closing an interaction as it helps to get into the details quickly. It is not recommended in the middle of the conversation as it may limit the amount of crucial information that can be shared, hinder the flow of the conversation and close the conversation.

For example:

Closed questions at the beginning of the call:

i. "As per our records, this is your current address, is it correct?"

ii. "May I know your name, please?"

iii. "Could you please tell us, which of the following devices you own and experiencing problems with?"

  a. Laptop

  b. Mobile phone

  c. Tablet

  d. Desktop

Closed questions at the end of the call:

i. "I hope the problem is resolved now?"

ii. "I hope you are satisfied with the support and service received?"

2. Open questions

Open questions are asked to get longer answers with more details. These questions help to develop the conversation and encourage the customers to tell the reason for placing the call.

For example:

i. "How can I help you?"

ii. "Could you please tell me the make and model of your laptop?"

3. Probing questions

Probing questions are asked to find out specific details of the issue that the customer has shared. These questions are generally asked when the customer is reluctant to give details or the answers are vague.

For example:

i. "What exactly is the problem?"

ii. "Can you please tell me when exactly it happens?"

4. Funnelling questions

Funnelling questions are a series of questions which begins with general questions and as the conversation proceeds, they get restricted to very specific questions to get details that are required to understand and resolve the issue. It is named funnelling because at the beginning it starts with a wide range like the mouth of a funnel and then becomes more restricted like the pipe of the funnel.

For example:

i. "Can you tell me how many times the problem occurs in an hour?"

ii. "For how long does it remain that way?"

iii. "Have you noticed any abnormal vibrations or noise?"

5. Clarifying questions

Clarifying questions are typically asked after getting all the details have been provided. It is a way of summarising your understanding of the issue. It can be used to check the understanding of the customer about the solution provided and also at the end of the conversation.

For example:

i. "Thanks for sharing the details, as I have understood, ABC is the problem, am I right?"

ii. "Hope you can follow my instructions to resolve the problem?"

6. Leading questions

Leading questions are typically asked to get a positive response from the customer. The question generally hints toward a type of reply one wants to get. It is important to keep the tone of questioning in a manner it encourages the customer to reply positively. This type of questioning is similar to the closed type of questioning.

For example:

i. "I am happy that the issue has been resolved, hope you are satisfied with the service?"

ii. "Hope you are satisfied with the product and recommend it to your family and friends?"

The questioning technique helps the support team member to understand the query, raise the ticket under the correct category, and resolve/route it to the correct people in the CRM system.

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4.1.3 Documenting, Classifying, and Prioritizing Customer Queries

Customer service in the IT industry has some of the same general customer-related challenges that other industries also face. Apart from that, there are many technical-related problems faced in the IT industry. Some of the problems may be common and require routine actions to be taken, some others may require troubleshooting and deep technical knowledge to resolve. Therefore, it becomes important to document, classify and prioritize the queries to resolve them efficiently and quickly.

1. Documentation

Documentation of queries is important as the data can be used to understand their issues, needs, and expectations clearly and resolve them effectively and efficiently. The description of the issue or query by the customer is often very vague and subjective, therefore it is important to have a structured document to capture their queries. This helps in understanding and quickly resolving the issue. In large organizations, there will be several issues raised every day by multiple customers, and very often the issues may be similar. Some of them can be resolved easily but some may require elaborate steps to resolve. Hence, it would be a good practice to document all the measures taken to resolve and close the case. This document should be made accessible for everyone on the team, so that if a similar issue comes again, then the document can be referred to.

Tickets are valuable documents as all relevant information about a query will be recorded in them. Some of the information recorded in a ticket are:

- User inputs of the issue
- Technicians observations
- Details of action taken
- Task escalation details
- Ticket closure details
- Other key information

Fig. 4.4 Information Recorded in a Ticket

2. Classification

Classification or categorization of queries is mainly based on the issue and the staff who can resolve it. Typically, all the ticketing tools/CRM tools have provisions for this. As soon as a request is generated a unique ID number gets created for future reference. Then based on the request, the support team that can handle the issue can be selected from the drop-down lists. The following are some of the advantages of classification of customer queries:

- Helps in making the ticket more specific and make the process of resolving faster.
- Helps in automatic assignment of the task to a specific support team.
- Help in identifying if a customer has reported a problem or just made a request, this becomes important for prioritization.
- Helps in correct escalation to the proper support teams.

Fig. 4.5 Advantages of Classification of Customer Queries

Categorization of the request/query can be based mainly on the product, operation, and resolution.

- Product category consists of product details like name, model number, version, etc.
- Operational category consists of the activity details like installation, repair, update, etc.
- Resolution category consists of issues, incidents, cases, etc. like device has stopped working, data has got corrupted, etc.

Fig. 4.6 Categorization of Customer Queries

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3. **Prioritization**

Prioritization is the process of handling certain customer queries on an urgent or more important basis. Every organization irrespective of size has important customers who have the largest account and loyal customers and those who were not treated well in the past. These types of customers have to be often given priority. All customers come with certain expectations. It is important to meet the expectations of the customers with proper optimization of the process and resources available in the organization. Prioritization is one of the factors that can help in achieving this. It can be based on the type of customers and type of issue:

Customer based	Issue based
• Customers with largest account (VIP customers) • Unhappy customers from the past • Loyal customers • Customers with repetitive issues, etc.	• Severity of the issue • Services affected • Urgency for resolving the issue • Source of the problem, etc.

Fig. 4.7 Basis for Prioritization of Queries

The various levels of priority can be set as low, medium, high and critical. Service level agreements should also be used while setting the priority as the support timelines will already be defined in them.

4.1.4 Importance of Timescales for Progress and Resolution of Customer Queries

The time taken to resolve a customer query satisfactorily after receiving the complaint is known as the time to resolve customer complaints. Customers expect a quick resolution and any undue delay can lead to customer dissatisfaction. Most customers expect the complaint to be resolved in 24 hours, but this may not be possible in complicated cases. The time to resolve may take a few minutes, hours, days or even weeks depending on the complexity of the case. In some cases where a part has to be sourced from outside and replaced, it may even take weeks. In some other cases, the product may have to be observed for a few days after repair to ensure that the problem is not recurring and truly rectified. Therefore, it becomes important for the company to keep the customer informed on the timescales for progress and resolution of customer queries. The following steps can be followed to ensure a quick resolution and to keep the customer informed:

Letting the customer know about the resolution time scale

Keeping the customer updated on the progress of their complaint

Continued...

Setting a standard and time frame for the resolution

Framing service level agreements with strict time scales for resolutions

Fig. 4.8 Steps to Ensure Quick Resolution and Keeping the Customer Informed

While framing the service level agreements, the time tracker tool in the CRM system can be used to get the timelines for resolution and the following metrics related to resolution time can be considered:

1. First contact resolution rate

Customers prefer to get the problem resolved by the first person they get in touch with after placing the call and are offered when it gets transferred to other agents. If first contact resolution does not happen, it not only leads to customer dissatisfaction but also leads to a longer resolution time. The first contact resolution time can be calculated using the following formulae:

$$\textit{First contact resolution time} = \frac{\textit{Number of cases resolved with one agent}}{\textit{Number of resolved cases}}$$

2. Average resolution time

The average resolution time to resolve a customer complaint can be determined by using the formulae below:

$$\textit{Average resolution time} = \frac{\textit{Total time spent on resolved cases}}{\textit{Number of resolved cases}}$$

3. Overall resolution rate

In some cases, companies cannot resolve certain issues, this is normal but the companies will have to keep a count on the unresolved cases. The overall resolution rate is calculated based on the following formulae:

$$\textit{Overall resolution rate} = \frac{\textit{Number of resolved cases}}{\textit{Number of unresolved cases}}$$

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Summary

- CRM can be defined as creating, maintaining, and expanding customer relationships. It can be used as a medium to ensure that customers remain loyal to the company. CRM can be used as a tool and strategy to get customer data and turn that into useful inputs for the organisation's functioning to deliver a satisfactory experience to the customer.
- The use of technology alone in the form of CRM software/systems will not help, a good strategy is also important. There are various tools available for CRM like Zoho CRM, Salesforce CRM, Oracle NetSuite, monday.com, etc.
- In a CRM system, all the various tools of customer management are integrated into one place. CRM helps irrespective of whether the customer is internal or external, consumer or business.
- The main types of CRM are Strategic, Operational, Analytical, and Collaborative CRM.
- The process flow chart of a CRM system from the time a customer calls the company and the case is closed. It shows the various stages at which the ticket is raised, the process for task escalation, and the updation of details in the CRM system.
- Questioning techniques involve the process of asking the right questions to get the right and correct information from customers to resolve their issues efficiently and effectively.
- Closed questions are those that get short, one-word answers, a ‘yes’ or ‘no’. A closed question may also include multiple choices from which the customers can choose the required options.
- Open questions are asked to get longer answers with more details. These questions help to develop the conversation and encourage the customers to tell the reason for placing the call.
- Probing questions are asked to find out specific details of the issue that the customer has shared. These questions are generally asked when the customer is reluctant to give details or the answers are vague.
- Funnelling questions are a series of questions which begins with general questions and as the conversation proceeds, they get restricted to very specific questions to get details that are required to understand and resolve the issue.
- Clarifying questions are typically asked after getting all the details have been provided. It is a way of summarising your understanding of the issue.
- Leading questions are typically asked to get a positive response from the customer. The question generally hints toward a type of reply one wants to get.
- The questioning technique helps the support team member to understand the query, raise the ticket under the correct category, and resolve/route it to the correct people in the CRM system.
- Customer service in the IT industry has some of the same general customer-related challenges that other industries also face. Apart from that, there are many technical-related problems faced in the IT industry.
- Documentation of queries is important as the data can be used to understand their issues, needs, and expectations clearly and resolve them effectively and efficiently. The description of the issue or query by the customer is often very vague and subjective, therefore it is important to have a structured document to capture their queries.
- Classification or categorization of queries is mainly based on the issue and the staff who can resolve it. Typically, all the ticketing tools/CRM tools have provisions for this.

- Categorization of the request/query can be based mainly on the product, operation, and resolution.
- Prioritization is the process of handling certain customer queries on an urgent or more important basis. Every organization irrespective of size has important customers who have the largest account and loyal customers and those who were not treated well in the past.
- The various levels of priority can be set as low, medium, high and critical. Service level agreements should also be used while setting the priority as the support timelines will already be defined in them.
- The time taken to resolve a customer query satisfactorily after receiving the complaint is known as the time to resolve customer complaints. Customers expect a quick resolution and any undue delay can lead to customer dissatisfaction.
- While framing the service level agreements, the time tracker tool in the CRM system can be used to get the timelines for resolution. Some of the metrics used are first contact resolution rate, average resolution time and overall resolution rate.
- If the performance based on the above metrics is concerning, then in the CRM system, the specific ticket categories causing the delays can be identified and remedial action can be taken.

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Exercise

Answer the following questions:

1. Write a brief note on CRM tools and systems.

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2. Explain the different types of questioning techniques with examples.

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3. Discuss the various metrics used for calculating the customer complaint resolution time.

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Fill in the Blanks:

1. ________________________ of queries is mainly based on the issue and the staff who can resolve it.
2. ________________________ is the process of handling certain customer queries on an urgent or more important basis.
3. __________________________ involve the process of asking the right questions to get the right and correct information from customers to resolve their issues efficiently and effectively.

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5. Documentation Process for Queries

IT - ITeS SSC
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Unit 5.1 - Documentation and Resolution of Customer Queries

Unit 5.2 - IT Requirements for Voice Set-up

SSC/N7301

Key Learning Outcomes

At the end of this module, the trainee will be able to:

1. Select the correct category of documentation as per the list mentioned in query management tool
2. Utilize various templates to record the query with the resolution for future purpose

Unit 5.1 - Documentation and Resolution of Customer Queries

Unit Objectives

At the end of this unit, the trainee will be able to:

1. List the common types of customer queries and how to resolve them

5.1.1 Documentation of Customer Query in the Correct Category in Query Management Tool

Most companies use call tracking software to track the calls and document the issues. A ticket gets raised and the software keeps track of the date, time, and duration of the call. The person to whom the ticket has been assigned finds the cause and solution to the issues, takes action to resolve and take approval from the user, and closes the ticket. Customer complaints are often related to the products purchased or services provided by the company. As discussed in the previous modules, the queries can be generic or technical in nature. Apart from these, the query management tools have additional categories of customer complaints like:

Product specific complaints are related to the products like technical faults, malfunctioning/damaged products, etc.

Service quality complaints are mostly related to the services like password provided by the company.

Support personnel specific complaints are mostly related to the unpleasant interactions and /or improper behaviour of the support team members.

New customer complaints are mostly complaints received for the first time from customers.

Repeat customer complaints are related to complaints from the customer repeatedly on the same issue again and again.

Fig. 5.1 Categories of Customer Complaints

The following details have to be documented:

a. Type and category of query
b. Ticket details
c. Steps that were taken to investigate, analyse and resolve the query
d. Case escalation details, if any
e. Case closure details
f. Case ownership, tracking and monitoring details
g. Customer follow-up and feedback

5.1.2 Common Types of Customer Queries and Their Resolution Methods

Soft skills and technical skills are required to resolve customer queries in the IT industry. The process or steps taken to resolve customer queries are the same for most queries. The method of responding to query changes is based on the media used for resolving like email, chat, phone, etc.

Steps to be followed to resolve queries in general:

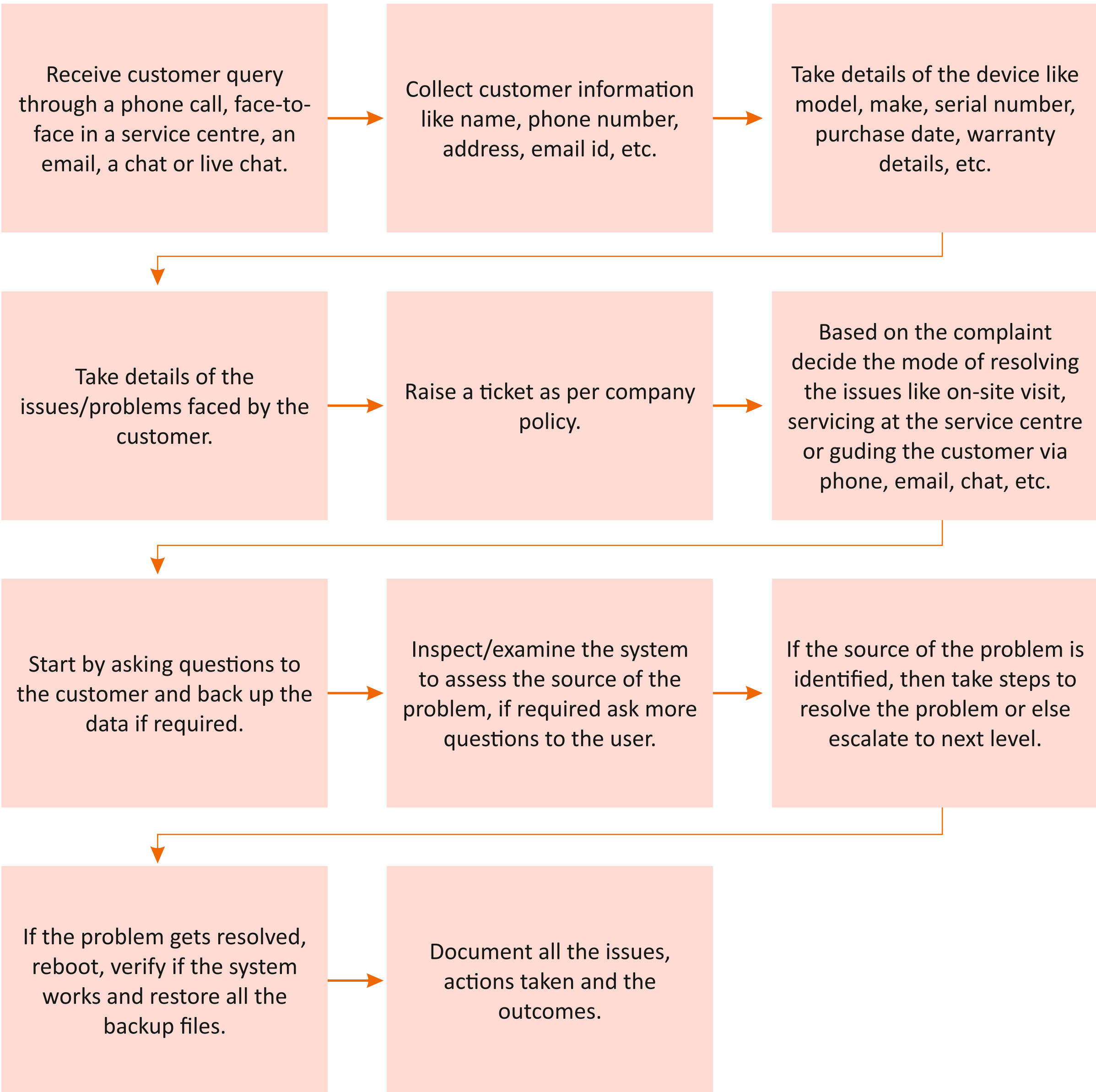

Fig. 5.2. General Steps to Resolve Queries

Steps to be followed to resolve issues on the phone:

Understand the issue thoroughly by asking specific questions to the user.

→ Give proper and accurate instructions to open the files.

→ Request the customer to take back-up of the files carefully by giving proper instructions.

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Keep asking the customer what is displayed on the screen to assess the progress in resolving the issue.

→ Do not use technical jargons as the customer may not be aware of those terms. Use simple names and terminology while giving instructions.

→ If the issues gets resolved * then ask the customer to reboot the computer, restore the data from backups and ask the check all the features.

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Explain all the actions taken to the customer.

→ Make a record of the issues faced, steps taken to resolve, instructions given to the customer for future use, etc. and show it to the customer.

→ Request the customer to give report recurrence of the problem or any other issues that may come after servicing.

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Request them to fill the feedback form.

*If the problem cannot be resolved over the phone, then request the customer to bring the device to the service centre or offer to send a technician to the site, if the company policy allows.

Fig. 5.3 Steps to follow while Resolve Issues on Phone

Common Technical Issues and Their Resolution

Technical issues are problems that occur in a device which can affect the functioning of the device and can be related to hardware or software. These issues are unforeseen and therefore when they occur, it causes inconvenience to the user and has to be resolved quickly.

Type of Issue	Cause	Resolution
Networking/Connectivity	Network devices like adapters, routers, ports and cables	Check the connections and functioning of the devices
	Configuration issues	Use tools like ping, Ipconfig/Ifconfig, Tracert/Traceroute, Netstat, Subnet and IP calculator, Route, etc.
Hardware	Computer not starting	Check power cord, outlet, plug and socket, etc.
	Computer running slow	Check hard drive space and delete files/programs, run a virus scanner
	Screen is blank	Check the connections to the computer and monitor, check if the computer is switched on, and press any key on the keyboard to activate the computer
	Keyboard/mouse not working	Check if the keyboard/mouse is plugged-in properly
	Computer is frozen	Press and hold the power button, restart by pressing and holding Crtl+Alt+Delete
	Voice, audio and video-related issues	Check video graphics (VGA) card, port and cable, check sound card and cables, check external speakers, headphones, etc.
Software/Operating Systems	Hardware, software, networks or a combination of all three, corrupt drivers, malware attack	Check hardware and software compatibility, use event log and diagnostics utilities to research BSOD errors, install updates and latest patches, reboot, check malware protection, use memory management tools

Table 5.1 Common Technical Issues, Causes and Resolution

Steps to troubleshoot any computer-related problem:

If the computer can boot, then file explorer or any other channel to copy data on to another computer on the network or to another storage device.

If the computer cannot boot, then check if the hard drive an be removed and use a converter to connect the drive to a USB port of another computer.

Make a copy of the data and return the hard drive to the original computer.

Ask the user to check if all the data has been copied before troubleshooting.

Boot the computer to check for error messages.

Check for simple problems first. See if there are any hardware problems before checking for software issues.

Verify the issues stated by the customers by cross-examining.

Decide whether it is a harware or software problem.

Divide the problem in to smaller components, check and analyze every component.

Guess what could be the source of the problem, if in doubt refer to technical documentation, online help, books, advice from colleagues and seniors.

Try a solution that is least invasive first.

Check if the system is working fine after fixing all the issues.

Document all the steps taken for future use and training.

Fig. 5.4 Steps to Troubleshoot any Computer-Related Problem

Steps to troubleshoot application errors:

Talk to the user to check when and how the problem occured, if required ask the user to demonstrate the problem to see if the user is making any errors.

Take back up and reboot the system.

Check for error messages in the action centre, look for clues in event viewer and search the website of the application manufacturer.

If the application or data is corrupted, then check application settings for errors, repair the application, uninstall and reinstall the application.

Check for issues due to outside interference like viruses, bad memory, corrupted hard drive, conflict with other applications.

Resolve these problems by scanning for viruses, using memory diagnostics tool, check hard drive and recover data, carry out clean boot to eliminate third-party software which may be causing the conflict.

Check if the system is working fine after fixing all the issues.

Document all the steps taken for future use and training.

Fig. 5.5 Steps to Troubleshoot Application Errors

Templates to record queries

Templates are files that can be used as a starting point during the creation of a new document. Templates can be created for documenting tasks that are performed repeatedly. A template for recording queries will be formatted to include information like customer details, query type, query receiving date and time, support agent details, resolution take, query closure date, etc. Templates help to improve the pace of documentation, reduce errors, standardize query management and capture all the details required without any omissions. The following table shows a sample template for recording customer queries:

XYZ Company Customer Query Record									
Sl. No.	**Customer name and details**	**Date & time of the call**	**Duration of the call**	**Customer query**	**Ticket details**	**Action to be taken**	**Query resolution details**	**Time-taken to resolve**	**Remarks**

Fig. 5.6 Sample Template to Record Customer Queries

Unit 5.2 - IT Requirements for Voice Set-up

Unit Objectives

At the end of this unit, the trainee will be able to:

1. List the basic IT requirements needed for voice set-up

5.2.1 Basic Technology Requirements for Voice Set-up

Technology is required in customer service centres to create a better customer experience. A wide range of hardware and software are available to automate processes like analysing data, managing customer relationships, managing day-to-day operations, etc. Most of the customer service software is integrated with live chat, shared inbox, social media, etc. Some of the technologies used in voice set-up are:

1. Internet telephone support

Internet telephone support through Voice over Internet Protocol (VoIP) allows telephone calls to be made over the internet with multiple phones sharing the same connection.

2. Web Real-time Communication (WebRTC)

WebRTC allows web browsers and mobile applications with real-time communication. It also audio and video communication inside web pages. It is used in video calling platforms like Zoom, Microsoft Teams, Slack, Google Meet, etc. This technology helps the customer and the support agent to communicate in real time.

3. Intelligent call routing

Intelligent call routing identifies and filters incoming customer calls and routes them to the proper support team. For example, if a customer has purchased a mobile phone and shared a certain phone number at the time of purchase, that number would be recorded in the customer database. If the customer places a call using that phone number, then the software identifies the caller and the device purchased and routes the call to the mobile phone support team.

4. Voice bots and voice assistants

Voice bots and voice assistants like Siri and Alexa are programmed based on voice commands and powered with conversational artificial intelligence. The advancements in text-to-speech, speech-to-text and voice recognition technologies have promoted the growth of voice bots.

5. Automatic Call Distributor (ACD)

The Automatic Call Distributor (ACD) is suitable for a voice-based customer service set-up as it receives incoming calls and distributes them to an available support agent. It can be integrated with IVR, where the IVR collects information from the customer, like the language preference, device details, type of query, etc. and then the ACD uses that information to distribute/route the call. This helps to sort and manage a large volume of incoming calls. It has features like caller identification, caller queuing and routing. Some of the different types of call distribution are:

Rotary call distribution helps to have equal volumes of workload to all agents

Fixed order call distribution where the calls are distributed to agents as per a fixed list of the order of agents

Time-based where the agent with the least talk time gets selected and assigned a call

Skill-based call distribution where the call gets routed based on language, expertise, response time, etc.

Simultaneous call distribution where all the agents get alerts of an incoming call and the agent who picks the call first handle the call.

Fig. 5.7 Type of Call Distribution

The main benefits of using technology are improved customer experience and better workplace management.

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Summary

- Most companies use call tracking software to track the calls and document the issues.
- The query management tools have additional categories of customer complaints like product-specific, service quality-specific, support personnel-specific, new customer, repeat customer complaints, etc.
- Soft skills and technical skills are required to resolve customer queries in the IT industry. The process or steps taken to resolve customer queries are the same for most queries. The method of responding to query changes is based on the media used for resolving like email, chat, phone, etc.
- Technical issues are problems that occur in a device which can affect the functioning of the device and can be related to hardware or software.
- Templates are files that can be used as a starting point during the creation of a new document. Templates can be created for documenting tasks that are performed repeatedly.
- Technology is required in customer service centres to create a better customer experience. A wide range of hardware and software are available to automate processes like analysing data, managing customer relationships, managing day-to-day operations, etc.
- Internet telephone support through Voice over Internet Protocol (VoIP) allows telephone calls to be made over the internet with multiple phones sharing the same connection.
- WebRTC allows web browsers and mobile applications with real-time communication. It also audio and video communication inside web pages.
- Intelligent call routing identifies and filters incoming customer calls and routes them to the proper support team.
- Voice bots and voice assistants like Siri and Alexa are programmed based on voice commands and powered with conversational artificial intelligence.
- The Automatic Call Distributor (ACD) is suitable for a voice-based customer service set-up as it receives incoming calls and distributes them to an available support agent.
- Some of the types of call distribution are rotary, fixed order, time-based, skill-based, simultaneous call distribution, etc.

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Exercise

Answer the following questions:

1. Discuss the steps to be taken to resolve customer queries.

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2. Write a note on common technical issues and their resolution methods.

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3. Discuss the various technologies required for voice set-up.

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Fill in the Blanks:

1. ______________________ are problems that occur in a device which can affect the functioning of the device and can be related to hardware or software.
2. _____________________ are files that can be used as a starting point during the creation of a new document.
3. _____________________ identifies and filters incoming customer calls and routes them to the proper support team.

6. Process of Query Resolution

Unit 6.1 - Query Resolution Process Based on Type of Customers and Their Behaviour

SSC/N7301

Key Learning Outcomes

At the end of this module, the trainee will be able to:

1. Identify the possible IT components required like e-mail platform/ webchat/telephone platform
2. Utilize various balanced judgments to different situations that could be used as a resolution

Unit 6.1 - Query Resolution Process Based on Type of Customers and Their Behaviour

Unit Objectives

At the end of this unit, the trainee will be able to:

1. Identify the nature of the customer, mood of the customer (angry, dissatisfied, seeking advice, dominant) before proceeding with objection handling

6.1.1 Types of Customers and Ways to Resolve their Queries

Interacting with customers of different types of customers with different natures and temperament is very difficult and challenging. Different approaches are required to handle different types of customers. Irrespective of the type or mood of the customer, the support staff should remain calm throughout the conversation, show respect, show empathy and not lose patience.

The different types of customers are:

1. New Customers

New customers are those who have purchased the company products or availed themselves of the company services for the first time. As they are new to the product, some of them may need additional guidance to understand and use the product. They have to be guided at every step patiently to make the best first impression. The support agents have to put in extra effort to understand the nature of the customer and also the technical knowledge and awareness the customer has. If the customer is a novice in technology, then the agent should avoid using technical jargon. Managing and resolving new customers' issues efficiently to their satisfaction can create an opportunity to turn them into loyal customers.

2. Active Customers

Active customers are those who have been using the company's products and services for some time but are not yet loyal customers. These customers have to be dealt with a lot of focus to prevent them from going to the competitors.

3. Lapsed Customers

Lapsed customers are those who have switched to a competitor. The first aim is to find the reason for switching to the competitor, whether it is due to the product, service or both. It would be a good idea to reach out to them, confirm the reason for going to the competitor, apologies and try ways to get them back.

4. Impulse Customers

Impulse customers are those who buy products on impulse without much thought and are likely to call the support team on an impulse to enquire about return policies, warranty, etc. It is good to have some type of automated response to those kinds of queries to save agents' time. Some of their calls may be for a genuine reason, therefore, they should be treated as other customers requiring support.

5. Angry Customers

Angry customers are those who are not satisfied with the products or services offered. They are likely to post negative comments on social media platforms and cause damage to the name and brand of the company. It is important to speak to them calmly, show empathy and pacify them to prevent further frustration. It is important to take customer feedback from angry customers so as to avoid mistakes made to them in future calls.

6. Dissatisfied Customers

Dissatisfied or unhappy customers are those who have purchased the products but are not satisfied with the product or service. They have to be pacified to prevent backlash and negative publicity. These types of customers can be tracked by the negative comments they leave on social media and customer feedback surveys. Their feedback can be a useful resource for the company to improve its support services.

7. Dominant Customers

Dominant customers are those who are very well informed and would have done a lot of research before approaching the support team. Therefore, it is important for the agent to provide ample evidence to show that there is a better and more effective way to resolve the issue. These customers have to be handled politely and carefully without questioning their knowledge and hurting their ego as they can quickly turn into angry customers.

8. Loyal Customers

Loyal customers are those who are repeat customers associated with the company for a long time. They have to be acknowledged as served well and rewarded through loyalty points and schemes as they can be the brand ambassadors of the company.

General tips to manage customers during the process of query resolution:

As discussed above, each type of customer has different qualities and needs different ways to manage them. There are some common points to remember and practice while dealing with all types of customers. They are:

- Practice active listening by concentrating on what the customer is saying and understand the reason for their anger, dissatisfaction, concern, etc.
- Apologise and acknowledge the mistake or the issue that may have occured from the company's side.
- Show empathy by trying to understand the feelings of the customer, this will help to de-escalate the issue.
- Speak in a calm tone of voice even when the customer speaks in a raised tone, do not get instigated to respond in a similar fashion.
- Always use positive and formal language, avoid using foul language, and making insulting and threatening remarks even if the customer uses them.
- Take the customers seriously do not argue or make fun, even what they are saying is not correct or makes any sense.

Continued...

All customers may not be able to communicate their issues clearly, therefore learn to identify and anticipate their needs and give appropriate solutions.

Always take feedback from the customers to the gaps and improve in the future

Fig. 6.1 General Tips to Manage Customers

Some of the golden sentences to say are:

i) "I understand the way you are feeling about it, I would have felt the same way Sir/Madam. "

ii) "I am very sorry this has happened to you Mr. X/Ms. Y/Mrs. Z."

iii) "I understand that this is very urgent and critical for you, we will prioritize your case and resolve it at the earliest."

iv) "We appreciate the feedback you have given; we will implement it and see to it that such issues do not repeat."

6.1.2 IT Platforms for Query Resolution

As discussed in earlier modules, there are various voice-based and non-voice-based tools for query resolution and management. Along with the telephone, which is the most popular tool in voice-based technical support, platforms like e-mail and web chat can be used as tools.

1. Electronic mail (e-mail)

Electronic mail (e-mail) is a computer-based application for the exchange of messages between two individuals or a group of individuals worldwide. E-mails are similar to traditional mail but exchanged through digital/electronic devices, hence they are known as e-mails. E-mail has now become very popular and is considered a basic necessity for communication in business, education, government, entertainment, commerce and even for personal communication between friends and family members. E-mails are exchanged across computer networks like local area networks (LAN) and the internet. The e-mail servers receive, deliver and store messages. Unlike telephones and live chat where both the sender and receiver have to be online for communication, e-mail does not require the users or their devices to be online at the same time. The various fields in an e-mail are:

From-is the email address of the sender with or without the name of the sender

Date-it shows the local time and date when the message was sent

To- is the e-mail address of the primary recipient/recipients

CC or Carbon Copy-includes the email address of the secondary recipient/recipient

Bcc or Blind carbon copy-includes the e-mail address of secondary recipients, which is not visible to the primary recipient

Subject-it is a brief description of the topic of the message

Body-consists of the content of the message in the form of unstructured text and may also have a signature block at the end of the message

Attach- can be used to attach documents, videos, pictures, etc.

Reply to- a reply can be sent only to the sender or to all the recepients in the mail.

Compose- used to compose new messages

Send- allows to send composed messages

Discard- allows to discard composed messages

Inbox-consists of all the e-mails received

Sent- consists of all the e-mails sent

Draft- consists of messages which are created but not sent to the recipient

Forward- allows forwarding of messages to people who are not in the original recipient list

Delete-allows to delete unwanted messages

Archive- allows to store messages and retrieve when required

Labels/folders- consists of folders like personal and work, and other folders can be created

Fig. 6.2 Various Fields in E-mail

2. Web chat

Web chat allows individuals to communicate in real-time using web interfaces. They are also known as live support software or live chat. It is an online customer service software and has features like online chat, web analytics and help desk software. Live support on webchat software can be provided by chatbots, virtual agents and human agents. These allow the customers to directly communicate with the company on their websites in real time. Some of the other features are website traffic monitoring, a built-in ticketing system and support executive efficiency analytics. The web chat window comes up on the website page in the browser. The customer/user can type the messages directly in the text field. The window can be used to send and receive messages through the chat server and it can be connected to multiple chat windows. This allows messages to be sent to a particular individual or to all users. It can be used for purposes like user training, end-user support, etc.

3. Instant Messaging (IM) Technology

IM technology is a type of online chat which allows real-time text messaging over a computer network or the internet. These are also known as messaging apps. Most of these have features like file transfer, Voice over Internet Protocol (VoIP), video chat, chatbots, etc. IM allows both private and group messaging. Some of the applications have a timer, which deletes the messages, files, photos, etc. after a certain pre-fixed time limit is crossed. Some of the IM providers allow call features for user-to-user calls, voice messaging, conference calls and video calls.

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Summary

- Interacting with customers of different types of customers with different natures and temperament is tough and challenging. Other approaches are required to handle different types of customers.
- New customers are those who have purchased the company products or availed themselves of the company services for the first time. As they are new to the product, some of them may need additional guidance to understand and use the product.
- Active customers are those who have been using the company's products and services for some time but are not yet loyal customers. These customers have to be dealt with a lot of focus to prevent them from going to the competitors.
- Lapsed customers are those who have switched to a competitor. The first aim is to find the reason for switching to the competitor, whether it is due to the product, service or both.
- Impulse customers are those who buy products on impulse without much thought and are likely to call the support team on an impulse to enquire about return policies, warranty, etc.
- Angry customers are those who are not satisfied with the products or services offered. They are likely to post negative comments on social media platforms and cause damage to the name and brand of the company.
- Dissatisfied or unhappy customers are those who have purchased the products but are not satisfied with the product or service. They have to be pacified to prevent backlash and negative publicity.
- Dominant customers are those who are very well informed and would have done a lot of research before approaching the support team. Therefore, it is important for the agent to provide ample evidence to show that there is a better and more effective way to resolve the issue.
- Loyal customers are those who are repeat customers associated with the company for a long time. They have to be acknowledged as served well and rewarded through loyalty points and schemes as they can be the brand ambassadors of the company.
- Along with the telephone, which is the most popular tool in voice-based technical support, platforms like e-mail and web chat can be used as tools.
- Electronic mail (e-mail) is a computer-based application for the exchange of messages between two individuals or a group of individuals worldwide. E-mails are similar to traditional mail but exchanged through digital/electronic devices, hence they are known as e-mails.
- Web chat allows individuals to communicate in real-time using web interfaces. They are also known as live support software or live chat. It is an online customer service software and has features like online chat, web analytics and help desk software.
- IM technology is a type of online chat which allows real-time text messaging over a computer network or the internet. These are also known as messaging apps. Most of these have features like file transfer, Voice over Internet Protocol (VoIP), video chat, chatbots, etc.

Exercise

Answer the following questions:

1. Write a brief note on different types of customers.

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2. Discuss the ways to manage customers during the process of query resolution.

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3. Discuss the different IT platforms used for query resolution.

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Fill in the Blanks:

1. ____________________allows individuals to communicate in real-time using web interfaces.
2. ____________________ are those who are not satisfied with the products or services offered.
3. ____________________ is a computer-based application for the exchange of messages between two individuals or a group of individuals worldwide.

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7. Software Requirement for Query Management

IT - ITeS SSC
NASSCOM

Unit 7.1 - Types of Software Used to Speed up the Process of Sharing Resolution

SSC/N7301

Key Learning Outcomes

At the end of this module, the trainee will be able to:

1. Identify the input type of the query received through e-mail, chat, IM (Instant Messenger), etc
2. Examine the specific data storage types used in the CRM tool

Unit 6.1 - Query Resolution Process Based on Type of Customers and Their Behaviour

Unit Objectives

At the end of this unit, the trainee will be able to:

1. Identify the various types of software used by customers to speed up the process of sharing resolution

7.1.1 Types of Software Used to Speed up the Process of Sharing Resolution

Software tools can provide many benefits to businesses from organizing contact to automating tasks. It enables centralising and organising customer data, helps in collaboration between team members, faster query resolution, etc. Some of the tools help in extracting inputs received through e-mails, chats and messaging systems and integrate with the CRM system for query resolution. Some of the advanced tools also enable the agents to guide and share the process of resolution with the customers during query resolution. The various types of software available to enhance the speed of query resolution are:

1. Contact management

Contact management is the process of storing, editing and tracking customer data in the form of digital records. It provides quick access to customer data and helps to increase and diversify the customer base. Contact management software can collect and analyse data from previous conversations, purchase records, marketing campaigns, customer surveys, etc. The software can process basic customer information and track interactions between the customer and the company like phone conversations, emails, chats, etc. along with the actions to be taken and agreed upon. It can be in the form of a spreadsheet or CRM software. The digitized contact can be accessed and viewed by employees in all departments, which helps in quicker communication and streamlines the query resolution processes. An additional feature in some of them is lead management which helps to record, track and manage leads captured from different sources like websites.

2. Fault management

Fault management helps to detect, isolate, alert and troubleshoot network faults in a short time. It helps to improve productivity, identify the root cause and fix problems, and reduce response time bottlenecks. It consists of tools and procedures for testing, diagnosing and resolving a network when it fails.

3. Task Management

Task management is the process of tracking, organizing, prioritising, delegating and assigning tasks. It can also track ongoing tasks and assign them to specific support agents or a team. It also enables employees from different teams to collaborate and complete tasks efficiently. It can be used to create reminders for self and the team, flag a deadline and send a reminder via e-mail. Once the task gets completes it gets added to the activities completed list automatically.

4. Document Management

The document management system allows to upload, manage and share documents with contacts stored in the contact information. It also allows creating, accessing and editing files which reduces time spent on searching for files. It acts as a central library for all the documents for customer support. Most document management software has an added feature which gives access to files to certain people in the organisation for reasons of security and privacy.

5. CRM Telephony

CRM telephony is a tool that helps to connect with the telecom service provider to make calls, log calls automatically under each record, get reminders for missed and upcoming calls, update call status, and schedule call automatically.

6. E-mail management

E-mail management software allows the agents to send, reply to, track and track e-mails. E-mail tracking enables monitoring the status of emails sent to customers and connecting with them as soon as they receive and open the e-mails. It also helps to see the number of times the e-mails have been opened and track the links clicked by them. It helps the company to personalize communication, and send alerts and notifications. It ensures that the support requests are handled properly, track enquires, collaborate with other team members and automate e-mail routing.

7. Customer service campaign management

Customer service campaigns help customer support executives to handle incoming calls and resolve queries and concerns of customers. The main aim of this campaign is to provide better customer service by aiming for low wait times, low abandon rates, first-call resolution rates and customer satisfaction. It can be used to train technical support team members at various levels.

8. Customer service dashboards

Customer service dashboards are used to monitor, manage and analyse the key performance indicators (KPIs) and other metrics related to customer service. This helps the support teams to take the necessary steps to improve customer experience and provide a quick resolution to their queries. There are various dashboards available are live chat dashboards, real-time customer support dashboards, help desk dashboards, call centre dashboards, customer survey dashboards, contact dashboards, etc.

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7.1.2 Data Storage in CRM

Data storage is the process of recording files and documents digitally and saving them in a storage system for future use. Data storage helps in data preservation, easy accessibility, data protection and recovery.

There are two types of data storage- direct attached storage and network attached storage.

Direct Attached Storage (DAS)	Network Attached Storage (NAS)
It stores data in physical forms like hard drives, USB drives, disk drives, CD/DVD drives, Flash drives, etc. which are physically connected to the computer. This type of storage is good for creating a local backup.	It allows multiple devices to share storage over a network. This can be done by storage devices in a Random Array of Independent Disks (RAID) configuration. This helps to centralize the data and improve collaboration between connected devices. For security reasons, permission levels can be set to control access.

Fig. 7.1 Types of Data Storage

Some of the **emerging trends in data storage are cloud storage, flash storage and artificial intelligence.**

Data storage in technical support services is important because support agents mainly need access to the customer database and knowledge database.

A **customer database** is a collection of all the information related to the customer. It involves the process of collecting and storing customer data. It includes customers' details like name, address, phone number, email id, and products/services they have already purchased/used, or are interested in purchasing/using. The database can help a company to be in touch with the customers and build the business further. For example, if a customer has already purchased a laptop, the company can approach to check if the customer would be interested to buy a printer or a scanner or install particular software, etc.

A **knowledge database** is a self-service online library that can be assessed by employees, customers, and anybody else who is seeking information. The content can come from contributors who are experts or well-versed in their subjects and range from topics related to products, services, operations, etc. It may include user manuals, troubleshooting guides, FAQs, information required for employees to carry out tasks, legal information, company policies, templates, best practices, etc. The knowledge can be in the form of text, video, audio, or any other media format. Knowledge management helps to create, share, use and manage knowledge across the organization and industries. The manager of the knowledge base assigns the user criteria depending on read-only access or contribute access. Read access determines the ability to view content in the knowledge base at different levels. Some of the confidential content may not be accessible to all employees and such content may require access codes or subscriptions. Contribute access is given to those people like subject matter experts, to create and modify content in the knowledge base.

Summary

- Software tools can provide many benefits to businesses from organizing contact to automating tasks. It enables centralising and organising customer data, helps in collaboration between team members, faster query resolution, etc.
- Contact management is the process of storing, editing and tracking customer data in the form of digital records. It provides quick access to customer data and helps to increase and diversify the customer base.
- Fault management helps to detect, isolate, alert and troubleshoot network faults in a short time. It helps to improve productivity, identify the root cause and fix problems, and reduce response time bottlenecks.
- Task management is the process of tracking, organizing, prioritising, delegating and assigning tasks. It can also track ongoing tasks and assign them to specific support agents or a team.
- The document management system allows to upload, manage and share documents with contacts stored in the contact information.
- CRM telephony is a tool that helps to connect with the telecom service provider to make calls, log calls automatically under each record, get reminders for missed and upcoming calls, update call status, and schedule call automatically.
- E-mail management software allows the agents to send, reply to, track and track e-mails. E-mail tracking enables monitoring the status of emails sent to customers and connecting with them as soon as they receive and open the e-mails.
- Customer service campaigns help customer support executives to handle incoming calls and resolve queries and concerns of customers.
- Customer service dashboards are used to monitor, manage and analyse the key performance indicators (KPIs) and other metrics related to customer service.
- Data storage is the process of recording files and documents digitally and saving them in a storage system for future use. data storage helps in data preservation, easy accessibility, data protection and recovery.
- There are two types of data storage- direct attached storage and network attached storage.
- Some of the emerging trends in data storage are cloud storage, flash storage and artificial intelligence.
- Data storage in technical support services is important because support agents mainly need access to the customer database and knowledge database.
- A customer database is a collection of all the information related to the customer. It involves the process of collecting and storing customer data.
- A knowledge database is a self-service online library that can be assessed by employees, customers, and anybody else who is seeking information.

Exercise

Answer the following questions:

1. Discuss the various software available to speed up the process of sharing resolution.

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2. Write a note on data storage used in the CRM tool.

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3. What are customer and knowledge databases?

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Fill in the Blanks:

1. ______________________ is the process of storing, editing and tracking customer data in the form of digital records.
2. _________________________ are used to monitor, manage and analyse the key performance indicators (KPIs) and other metrics related to customer service.
3. The two types of data storage are __________________and _________________________.

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8. Manage Your Work to Meet Requirements

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Unit 8.1 Importance of Following Work Instruction and Complying with Company Policies

SSC/ N9001

Key Learning Outcomes

At the end of this module, the trainee will be able to:

1. Define the scope of work
2. Demonstrate effective work planning principles
3. Recognize the importance of using time and resources effectively

Unit 8.1 Importance of Following Work Instruction and Complying with Company Policies

Unit Objectives

At the end of this unit, the trainee will be able to:

1. Discuss the role, responsibilities, and limits of the responsibilities
2. Discuss the importance of gathering detailed work requirements and prioritizing work areas
3. Identify commonly made mistakes in the prioritized work areas
4. Explain the importance of completing work accurately

8.1.1 Importance of Completing Work Accurately

Relevant data is important in every professional field. Finishing tasks accurately and on time is extremely essential in the workplace. When employees finish their work correctly and within the stipulated time, they directly influence the company's growth, profit and efficiency

Establish and agree work requirements with appropriate people

For a Technical Support Executive - Voice , it is crucial to meet the deadline. The various requirements to be met are:

- Activities (what is required to be done)
- Deliverables (output of work)
- Quantity (the amount of work to be done)
- Standards (acceptable performance coupled with compliance and service level agreement)
- Timing (the stipulated time for completion of task/s)

A Technical Support Executive - Voice must obtain valuable information from:

- **Subject Matter Expert (SME):** SME is the point of contact in case a Technical Support Executive - Voice faces an issue during operations
- **Floor Manager:** Manages a team and looks after the operations as well as HR related issues of the employees under him/her. Associates get placed under a Floor Manager who in most of the cases become their reporting person.
- **Process Manager:** Process Manager has more than one team under him/her supervision. The profile is more like an Operations Manager who has the entire ops team to look after. In an organization, there might be five teams under separate Floor Managers. However, these five teams will be looked after by the Process Manager.
- **Floor Supports:** Floor Supports are coordinators who mainly look after the smooth coordination between various teams. For example, a Floor Support must coordinate with on-floor teams to get a job done without hassle. Whereas SMEs are only the experts of the operations, Floor Supports must be well-versed with various processes including the core operations.

- **Team Lead (TL):** Team Lead is appointed under each Floor Manager to look after the operations. While the Floor Manager must take care of every issue of the employees under him/her, Team Lead looks after the operations. Team Leads are often empowered with the authority of performing HR related tasks, such as leave approval, grievance handling, etc. However, in most of the organizations, TLs are placed under Floor Manager to help him/her look after the team.
- **Manager:** Manager is one rank higher than the Process Managers. Under one Manager, multiple teams, such as Ops Team, Caller Team, Chat Team, and Email Team are allotted. Manager looks after all the aspects of an organization including operations, HR and Sales.
- **Immediate Seniors:** Immediate Seniors are the seniors in the same team. A team is made of Junior Associates and Senior Associates to maintain a balance. Senior Associates can be the SME as well (depends on the decision of an organization). It is advisable for Junior Associates to consult an SME or a Senior Associate first to mitigate an issue.

It is important for a Technical Support Executive - Voice to stick to the Service Level Agreements (SLAs).

- Service level agreement is a crucial element of the service contract.
- SLA is the time considered to finish a job as per the contract. For instance, internet service providers are likely to consider service level agreements where the time range of the net-service will be considered.
- SLA consists of two basic components: Mean Time To Recovery (MTTR) and Mean Time Between Failures (MTBF)
- Simply, SLA is the negotiated agreement between parties where one group is the customers and the other is the service provider

Fig 8.1 Team meetings or open discussions improve the quality of performance

Obtain guidance from appropriate people, where necessary

The principal goal of the Technical Support Executive - Voice is to learn from experienced seniors and other employees. A Technical Support Executive - Voice is aware of his/her job role. Taking help from seniors and experienced professionals will only help increase the confidence of the Technical Support Executive - Voice .

A Technical Support Executive - Voice must keep these things in mind:

Dos and Don'ts while obtaining guidance from appropriate people

- When you approach a person, ensure that the company protocol is followed. For example, if an associate requires some assistance from someone of higher authority, he/she must know the right person in the hierarchy to approach. Initially, a Technical Support Executive - Voice should ask for guidance from the immediate boss or the Team Lead. If the problem is not resolved, he/ she should seek help from the manager or someone immediate in the hierarchy.
- Asking for assistance directly from someone at the top of the hierarchy without addressing the same to the immediate boss is considered unprofessional too
- Always carry pens and a notebook to document the main points and try to avoid forgetting things. Approaching a person for same issue is both annoying and redundant. Importance of keeping Minutes of Meeting must be considered. Minutes of Meeting comprises the gist of the discussion. It helps keep a written documentary of the discussion and may be used as a future point of reference.
- It is advisable to fix an appointment with the concerned person beforehand, if possible.
- Behave professionally while you are taking someone's assistance. Do not interrupt with your personal opinion. If you want further clarification, ask questions after he/she finishes speaking. Raise your hands and then ask the question for clarification.
- Always thank a person after receiving assistance from them.

Receiving guidance is the first step towards continuous learning. However, the emphasis is on the application of the learning outcomes at work. A Technical Support Executive - Voice must try to apply the guidance to increase the quality of work. This helps one grow as a learner and boosts the confidence level.

Ensure work meets the agreed requirements

- One must learn the importance of pre-planning and preparing an assignment, so that it can be completed in a very organized manner. The importance and benefits are:
- Planning helps in making speedy and right decisions by providing a person with adequate guidelines.
- Planning helps in preparing a person for unexpected situations and complex outcomes, thus helping the person in control the situation in a better way.
- Preparing and planning helps in optimally dividing resources like finances, raw materials, time and manpower.
- Preparing and planning helps in defining, identifying, quantifying goals so that appropriate methods can be adopted to finish the assignment on time and in an organized manner.

Work Requirement	How to ensure that the requirement is met
Activities	• Ensure that you have a clear idea about the work requirements • Seek guidance from colleagues/seniors concerned persons in case of doubts • Follow company policies and processes while planning activities
Deliverables	• Deliverables are considered as the output of the work • Plan in accordance to the timeline given to you to complete the work so that the deliverables are not hampered • Always measure the required output and devise a process to achieve the same
Quantity	• Quantity is the amount of work that needs to be done to attain the deliverables • Don't let the quality be affected due to quantity and vice versa • Balance between quality and quantity must be maintained
Standards	• Understand the client requirements as per SLA • Ensure that you know the acceptable standards of performance and perform accordingly • Keep the compliance-parameters in mind and do not violet the rules while working on a project
Timing	• Be aware of the deadline before starting a work so that you can plan your work accordingly • Set small and achievable targets. For example, decide how much work should be done on the first day and achieve it on that very day • Do not compromise on the quality to meet the deadline. For this, you need to plan things before and execute the same.

Methods Adopted to Gather Requirements and Analyse

- While working as Web Developer or an entry level employee:
  - Organize, plan and prioritize the work order and jobs received
  - Conduct and organize technical assignments in optimal manner
  - Plan to utilize time and equipment efficiently
  - Concentrate on tasks and finish them within time limits
  - Assist in record keeping and proper documentation
  - Work on the completed project based on the feedback received
  - Ask for help from domain experts and seniors if issues arise during work
  - Organize and plan own work in a way that all the tasks are completed on time and as per specifications
  - Organize work as per job specifications
  - Organize and plan maintenance and cleaning activities

Requirements of Decision Making

Decisions at workplace must be taken swiftly, based on the best researches, prior experience and data gathered from relevant field experiences. Such data provide 'Evidence' and help a person in making suitable decisions.

The requirements of efficient decision making process are given below:

- One must have adequate yet controlled access to accurate and consistent data.
- One must stick to appropriate processes in analysing data. For example, data analysis based on the set parameters of the organization. Ensure the reliability of the source of the data.
- One must take decisions swiftly, based on the analysis of collected data.
- Apart from analysing the researched data, one must rely on practical experiences while taking decisions

The role and responsibilities of Web Developer include the following:

- Ability to troubleshoot everyday issues
- Analyse critical points in daily tasks through observation and experience and identify control measures to solve the issue. For example, if you are working on a particular domain on a regular basis, know the weaknesses and strengths of the point. Thorough knowledge helps to solve issues quickly.
- Find smart ways to finish a job
- Decide whether to accept or reject particular process flow (technical aspects) based on quality parameters. For example, if process A is fit to achieve a specific goal, it does not mean that process A should be followed in every case. Consider varied processes to accomplish different goals.
- Take decisions of one's own roles and responsibilities

Steps involved in the Decision Making Process

The steps involved in the general decision making process are mentioned in the diagram below:

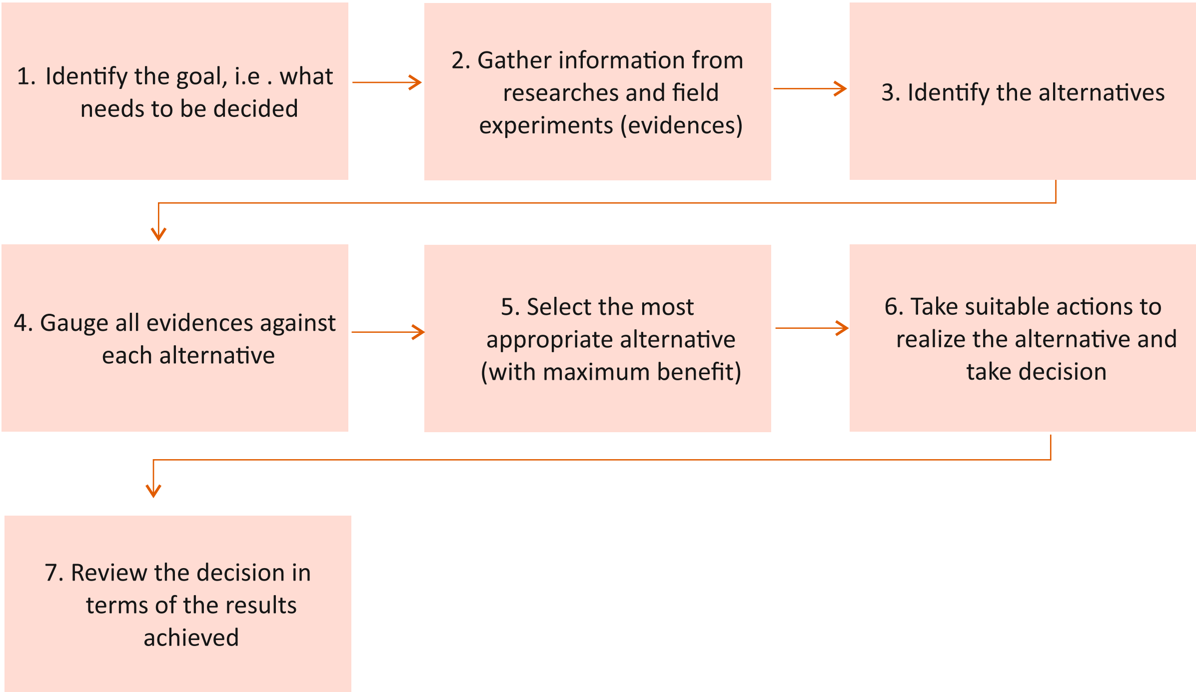

Fig 8.2 Steps involved in decision making

Notes

8.1.2 Appropriate Timescales Work Completion & Implications of not Meeting the Time-lines

Utilize time effectively

There is a common saying, **"Time is Money"**. Not only are there multiple reasons why time management is significant, but there are also numerous benefits of the same. Implementing good time management skills allows one to complete more work in a shorter period of time, which leads to more free time, reduced exposure to stress, and improved work quality. Each benefit of time management enhances another aspect of your life and this goes on in a constant cycle.

Fig 8.3 Time is money

Here, we will discuss several tips for effective time management that may enhance your work and you as an individual.

- **Time is Limited:** Everyone gets the same amount of time each day, and it's limited, therefore it's imperative to make the most of your time if you ever want to be efficient at the workplace.
- **Be Decisive:** There are many options in life to choose from. When you practice good time management, you have more time to breathe; this allows you to control which choices are the best to make. You're more likely to jump to conclusions and not fully consider the different options when you feel pressed for time and have to make a decision; this leads to poor decision making.
- **Accomplish More in Lesser Time:** You're able to stay focused on the task at hand by taking control of your time. This leads to higher efficiency because you never lose momentum. Imagine running a mile where you stop every 5 seconds; this would cause you to become tired very quickly and take much longer to complete the run.
- **Learn More in Shorter Period of Time:** When you control your time and work more efficiently, you're able to learn more and enhance your experience faster. There is a reason some students graduate before the others, so imagine applying time management throughout your entire career. You will not only stand out from the rest, but you will gain experience much quicker and be able to move up in life a lot sooner.

- **Enjoy More Success:** Time management is the key to success; it lets you to take control of your life rather than follow the flow of others. You achieve more, you make better decisions, and you work more efficiently; this leads to a more successful life.
- **Reduce Stress:** One of the main causes of stress is that people get rushed. The phrase "I have so much to do and so little time to do it" is spoken with frustration which leads to stress. With good time management, you know how much time you have, how long it will take to get your tasks done, you achieve more, and have more free time. This gives you more time to collect yourself, which reduces the feeling of being rushed and which in turn leads to less frustration and stress.
- **Higher Quality of Work:** We all need some free time to unwind and relax but, unfortunately, many of us don't get much free time since we're too busy to keep up with our daily activities and work load. By applying time management skills, you can get more done in a shorter period of time leading to more free time.
- **More Discipline in Life:** When you practice good time management in your life, you are less likely to leave work for later. Time management leads to higher efficiency and leads to a disciplined life.

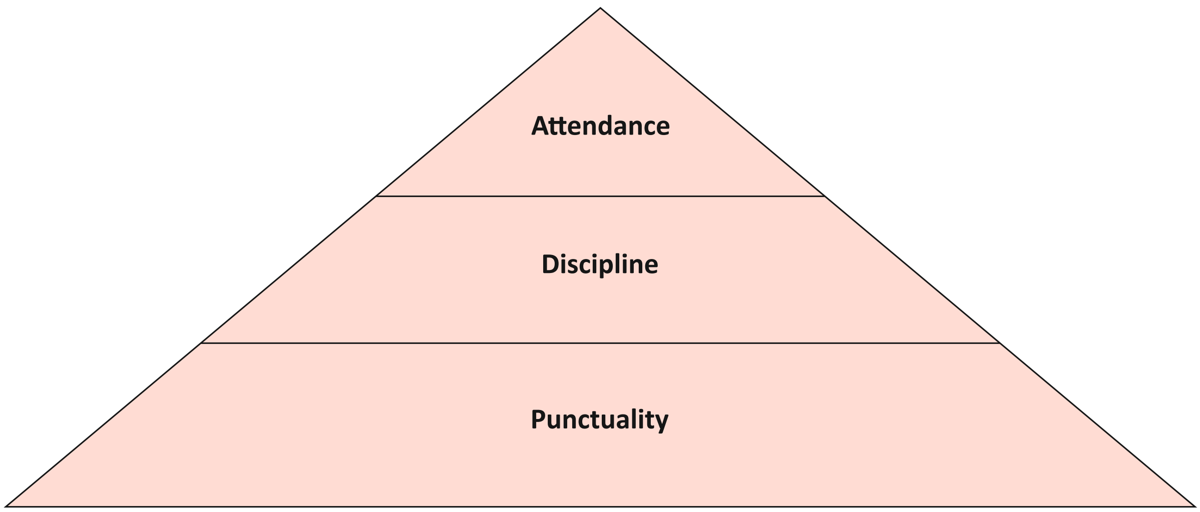

Fig 8.4 The pyramid of effective time management

Tips to manage time effectively:

- Adhering to one's plan
- Keeping a daily To-Do list
- Dividing one's time wisely
- Sticking to and respecting deadlines
- Not wasting time

8.1.3 Basic Work Ethics to be followed in an Organization

Keep immediate work area clean and tidy

Keeping one's work area tidy and clean carries the following benefits:

- Avoiding accidents at the work area and the corresponding injuries and damages
- Lessening an employee's exposure to Occupational Hazards
- Permitting easy flow of materials
- Enhancing productivity at work
- Enhancing the employee's control on the various tools and equipment

The work area can be kept tidy and clean in the following manner:

A. Keep work area in a tidy and organized state

- **Clear Clutter and Spills:** Clearing clutter and spills helps prevent Slips, Trips and Falls
- **Control Dust and Debris:** Get rid of the debris every day to avoid untidy workstation.
- **Store tools and equipment appropriately in their designated storage locations:** CD/DVDs should be kept in the correct place. Similarly, for any other device like pen drive, which is used daily to test/ store works, the same step should be taken.
- **Abide By A Written Set Of Guidelines:** Keeping one's workstation/desk clean, tidy and organised, one must follow the SOPs (Standard Operating Procedures)
- **Store and maintain Personal Protective Equipment appropriately:** Anti-glare spectacles, earmuffs are important for Web Developer . Anti-glare goggles help reduce the stress of looking at the screen for a long time. Ear muffs negate the noise.

B. Keep work area safe

- Promoting the practice of looking out for signs like “Wet Floor” or “Cleaning under Progress”
- Promoting the practice of reading Directions of Use and MSDS sheet before using any chemical
- Reporting each incident of spill (oil, grease, chemical, etc.) to the housekeeping staff with immediate effect
- Avoiding Fire and Electrical Hazards
- Avoiding storage of heavy objects at high and elevated areas

Treat confidential information correctly

As a Web Developer , one works in projects with confidential information. Even in the SLAs, upholding confidentiality is a major clause and the violation of the same leads to termination.

Every client wants to see that certain information is kept confidential. Information leaks can cause a huge loss and thus, Web Developer must be cautious while working. To prevent information leaks which may be implied as security breach, one must install anti-spam, anti-spyware and anti-phishing tools.

To understand how to treat confidential information,

- Maintain that all the new employees accept and sign the Confidentiality Agreement
- Recognising the relevant organisational confidential information and details must be taken into consideration. These may be in the form of:
    - Verbally disclosed information
    - Written information
    - Slides and Handouts
    - Visual information
    - E-mail and file documents
    - Carefully reviewing the NDAs from 3rd Parties

Work in line with organization's policies and procedures and Work within the limits of job role

Abiding by compliance is a must. Additionally, the company or brand image also gets affected due to work accuracy. A meticulous work helps in the development of company image as well as the ethical views in front of the professional community.

The new joinees will never understand the importance of submitting precise work if they are unaware what the expected benchmarks are. So, it is important that trainers of the particular company lay down the objectives to the Web Developer . One of the best ways to do so is to take the help of "SMART."

S – Specific

M – Measurable

A – Achievable

R – Relevant

T – Timely

1. **S - Specific.** It stresses on specifying a specific goal rather than a general one. A specific goal will usually answer the "Why", "What", "Who", "Which" and "Where" questions. While carrying on with the daily responsibilities, the Attendant must take care and abide by these 5 questions, to remain clear about his/her goals and if, they are aligned towards the interests of the organisation. The operator should not only work to achieve success for oneself, but also for the betterment of the organization as a whole.
2. **M - Measurable.** It stresses on measuring the progress towards the attainment of goal. A measurable goal usually answers the "How many?" and "How much?" questions. Whatever activities the operator should perform daily, his/her achievements must be expressed in volume, workload or quantity. This should be reported to the immediate supervisor or the Line Manager, who would be appraising the Attendant at the end of the year. A Daily Work Report (DWR) should be maintained and emailed to the supervisor daily.
3. **A - Accurate & Attainable.** Achieving all predefined metrics and abiding by the Service Level Agreements (SLAs). Every task should be error-free.
4. **R - Relevant and Reporting Real-time.** All activities and achievements, relevant to the job role, should be reported to the Line Manager, as and when accomplished.

5. **T - Timely & Target-oriented.** Activities should be prioritized according to long term and short term goals. Short term goals should be divided into small, achievable, measurable and time-bound steps. This, in turn, would induce a sense of urgency, promptness and ownership towards one's duties.

Fig 8.5 Implementation of SMART module enhances quality of performance

Brainstorming

There are several ways that can improve the quality and effectiveness of brainstorming. They are:

Be attentive to everyone's ideas: People pay more attention to their own ideas; however brainstorming calls for equal exposure to the thoughts produced by others.

Avoid face-to-face groups: Using face-to-face groups affects assessment apprehension, social loafing, production blocking, and social matching.

Include both individual and group approaches: The process that helps members mix their ideas into the group is brain writing. Here, the members write their ideas on a piece of paper and then pass it along to others who add their own ideas.

Take breaks: Permit silence sessions during group discussions so that members have time to think things through.

There is no fixed timescale for work completion for any profession. The duration to complete a project depends entirely on the set rules of a company.

To ensure your work meets the agreed requirements, consider these points:

- Type of the project
- Time period allocated for research

- The time to acquire relevant data and gather resources
- Outlining the direction and the flow of work
- Analysing data for creating test cases/prototypes

Implications of Brainstorming Sessions

Timescale and deadlines are entirely based on the complications in a project. Where efficiency of an employee, technical aspects, and accuracy in work are constantly checked, submitting the work to the clients at the designated or promised deadline is also a must. The end date or the deadline of a project is planned as per rough calculations.

In case the work or the project is not delivered on time, there are high chances of the company to bear the brunt on the stricter side. Some of the implications of a missed deadline can be:

- Weaker commitment from burnt out employees
- High-stress level
- Low morale
- Huge penalties imposed by the client
- Loss of revenue for the company
- Loss of opportunities and potent chances for business growth
- Negative effect on the brand reputation of the company

The most common factor that leads to task inaccuracy at the workplace is a misunderstanding. During OJT (On-the-Job-Training) in most companies, workers are left at the mercy of employees, who belong to other departments or different projects. Now, as these employees are in charge of assisting the new trainees at work, they provide all necessary information to prepare them well for future endeavours.

It is important that the trainers should belong to the department where the employees are placed and provide precise details. The same goes for the employees who need opening up to their trainers and leaving behind the inhibitions to finish their work with precision.

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Summary

- Relevant data is important in every professional field.
- Implementing good time management skills allows one to complete more work in a shorter time, which leads to more free time, reduced exposure to stress, and improved work quality.
- When you control your time and work more efficiently, you're able to learn more and enhance your experience faster.
- One of the main causes of stress is that people get rushed.

Notes

Exercise

State whether the following statements are CORRECT or INCORRECT:

1. A project or a task which is both important and urgent is basically deadline driven. [ ]
2. The end date or the deadline of a project is designed on the basis of certain rough calculations. [ ]
3. Proper engagement and open communication amongst employees make the working process in a company more effective. [ ]
4. Sharing of information or updating the section which you are working with your team members will help them get a better idea of your progress. [ ]

Answer the following questions:

1. How should one obtain guidance from seniors or supervisors?

2. What are the benefits of time management?

3. Write a short note on the “Triple Constraint Triangle”.

QR Code

Scan the QR Code to watch the related video

https://youtu.be/g-lq5s-pQgk

Work Ethics to Follow in an Organization

Skill India
कौशल भारत-कुशल भारत

सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

N·S·D·C
National
Skill Development
Corporation
Transforming the skill landscape

IT - ITeS SSC
NASSCOM

9. Work Effectively with Colleagues

SSC/ N9002

Key Learning Outcomes

At the end of this module, the trainee will be able to:

1. Explain the methods and mechanisms for effective communication
2. Explain the importance of effective collaboration in the workplace

Unit 9.1 Team Work and Communication

Unit Objectives

At the end of this unit, the trainee will be able to:

1. Explain the principles of clear communication
2. Outline the importance of being a good listener and adhering to the commitments

9.1.1 Different types of Information at Workplace and its Significance

In all companies, departments like operations, management, and recruitment play a great role. This may be in relation with finance, operations, marketing or any other department. As there are different teams present in an office, so are the types of information.

Communicate With Colleagues Clearly, Concisely and Accurately

Effective communication allows us to comprehend the problems that our colleagues are facing, and asking them to portray it clearly. To impart clear and precise information, we need to:

- Spread positive attitude
- Ensure proper understanding regarding strategy and goal accomplishment
- Ensure that everybody complies with the company's regulatory bodies

Work in Ways that Show Respect for Colleagues

- Assisting, working and asking for help from colleagues to show trust and respect.
- Increasing the morale for an effective teamwork.
- Increasing open communication between co-workers.
- Working with your colleagues to increase productivity.

Seek guidance from appropriate people to agree the analysis to be performed on the data

- One's supervisor is supposed to be one's mentor at work.
- Ask questions to clarify doubts.
- Help and guidance must be sought from the supervisor whenever required.

Ask questions and seek clarifications on work tasks whenever required

A Technical Support Executive - Voice , who has joined a new project, might face issues regarding technical aspects and process. It is always better to ask questions to clarify doubts rather than brooding quietly with doubts.

There are designated departments for each aspect of an organization. For example, HR, transports, security, operations are departments that handle different issues. In case of any doubt regarding HR policy, one must seek assistance from HR personnel. If an executive gets stuck with a technical query, he/she must approach someone in operations.

- Question/s must be asked to clarify doubt and to narrow down communication gaps with one's supervisor.
- Obtain and seek clarifications on policies and procedures, from the supervisor or other authorized personnel.
- Report and identify any possible deviations to appropriate authority.
- Any doubt/s can approach the supervisors or other authorized personnel, if the Technical Support Executives has doubts about the organizational policies and SOPs.
- Precisely receive information and instructions from the supervisor related to one's work.
- This must be done to get a proper idea about the responsibilities expected by one's supervisor.
- Having a proper idea about one's tasks helps in fulfilling targets successfully.
- Address the problems efficiently and report if required to immediate supervisor appropriately.
- Receive instructions clearly from superiors and react effectively on the same.

Effectively Communicate with Clients

Outsourcing plays instrumental role in generating revenue. Multiple projects run at a time in a company and each project might have different clients with different requirements and expectations. Therefore, Client communication is a vital thing to know for a Technical Support Executive - Voice .

- Communicate and politely, clearly, precisely
- Empower the client by putting adequate value to his / her views
- Recognize the client as a "Partner" and not just "customer"
- Stay honest in dealing with customer
- Keep in touch and update the client on existing and upcoming deals and offers
- Exceed client's expectations through impeccable deals and service
- Negotiate fairly, politely but firmly
- Know and learn about the client
- Resolve service issues and concerns promptly
- Empathize with the client and apologize, in case of grievance and complaint

Review the results of the analysis with appropriate people and Perform modifications based on inputs

The job role of Technical Support Executive - Voice is dependent on the different technical aspects and the technology changes quite rapidly. To keep up with the pace, executives must take vital updates from concerned people. Seeking and following up for feedback is another way to increase the quality of work.

Good feedback help the organization increase the service provided. Moreover, implementation of good feedback earns the respect and trust of the clients.

It might happen that there are certain flaws and inaccuracies in the work done that need to be taken care of. Project Manager, Quality Assessor and immediate supervisor like the Team Lead are the most appropriate persons to review the performance.

A performance report is generated on a weekly or monthly basis. The parameters vary from company to company on which executives are evaluated. The report is then shared with the executives.

As a Technical Support Executive - Voice , one should accept the feedback in a positive way and work on the areas of weakness. The main reasons behind review results are mentioned below:

- Introducing the Technical Support Executive - Voice to the process flow so that he/ she gets familiar with the common or organizational practices
- Marking the probable areas of weaknesses. However, the executives should view it as a "scope of improvement" on which he/ she must work on to develop into a stronger professional

The parameters of review are:

- Grooming (Verbal and Non-verbal)
- Discipline and Integrity
- Time Management
- Team Work (how the executive is as a team player)
- Attendance and Absenteeism

Each company maintains a specific mode of evaluating performances of the employees. SMART (Star, Medium, Average, etc.) is used for performance reviews. Star performers are recognized and the persons who lag behind are equipped with facilities to enhance their performance. The employee should comprehend the process and requirement of the company and then groom himself/ herself accordingly. In some cases, SMEs or Subject Matter Experts are appointed to evaluate the performance of the employees.

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Unit 9.2 Team Work

Unit Objectives

At the end of this unit, the trainee will be able to:

1. Identify challenges and pain points related to working distribution while working in a team
2. Explain the importance of distributing and sharing workloads

9.2.1 Importance of Understanding Problems at Workplace and Providing Support

Carry out commitments they have made to colleagues: Let colleagues know in good time

Certain things, at times, lead to time constraints. For example, owing to the work pressure, one might need to stretch work hours. It not only becomes your responsibility but a humane approach to assist your colleagues when they are stuck at any project.

When you comprehend the perspective of your colleagues, you create good communication and mutual bonding between yourself and your colleagues.

It isn't essential that you can do every task that is given to you. There may be times when you will be shifted to another project based on priority. In such cases, it is better to let your colleagues know what is happening. This lets your colleagues to find an appropriate replacement that can carry on with the work you are initially supposed to do.

Time Management is about managing your time. It is about making a commitment to be more organized, uphold your focus and use your time to your advantage.

Identify any problem they have working with colleagues and take the initiative to solve these problems

A Problem can be defined as a difficult or unexpected situation, regarded as unwelcome and needing to be dealt with and overcome. Problems can take the form of intricate puzzles and riddles.

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- Identify the problem
- Understand everyone's interests
- List the possible solutions (options)
- Evaluate the options
- Select an option or options
- Document the plan
- Monitor and evaluate

Fig 9.1 Stages of problem identification and solving

Solving Problems while ensuring health and safety at workplace

- Analyzing the situation and taking suitable actions while dealing with team members
- Analyzing, assessing and deploying the information gathered from observation, experience, reasoning, or communication to act efficiently
- Identifying flaws in software, tools and equipment and ways to resolve them on time
- Ensuring timely correction of errors for reducing rework

Follow the organization's policies and procedures for working with colleagues

A Technical Support Executive - Voice must connect and coordinate not only with clients, but with seniors and supervisors in the organization as well. The elements of communicating effectively with clients, peers / colleagues and supervisors are given below:

Fig 9.2 Essential steps of effective communication

A. Coordinate and cooperate with colleagues to achieve work objectives

- Listen actively with minimal barriers
- Build trust, but do not get too casual
- Participate and coordinate
- Watch your body language
- Share best practices with peers
- Be aware of your tone
- Ask questions to clarify
- Discuss task lists, schedules and activities

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B. Effectively Communicate with Supervisors

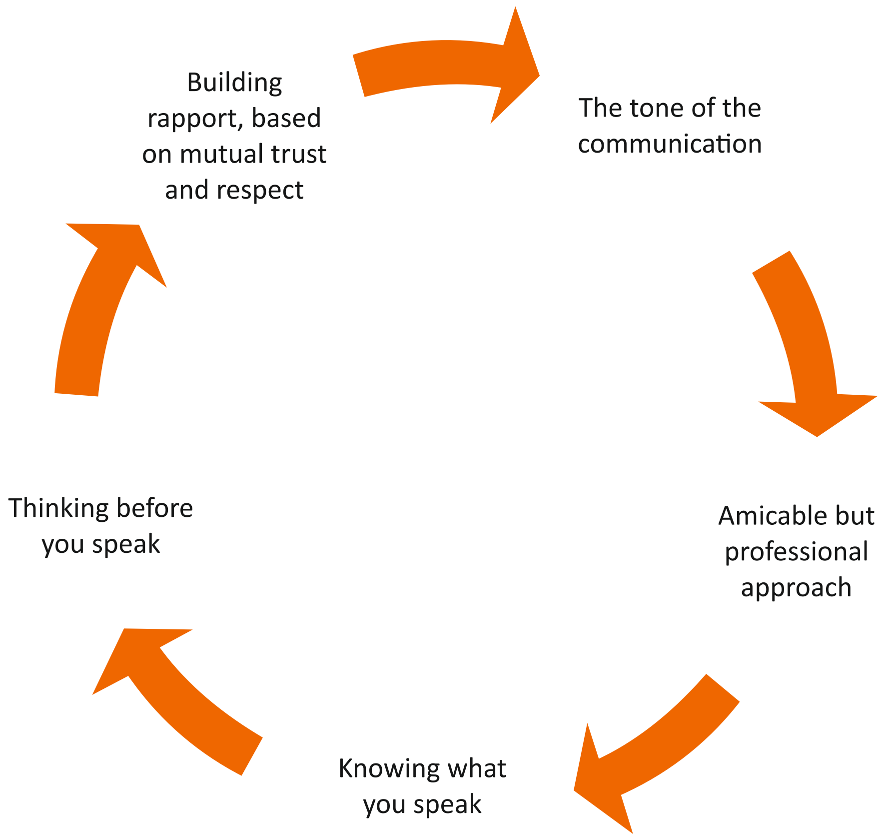

Fig 9.3 Essential qualities for a good communication

Grievance is "a complaint or a strong feeling that one has been treated unfairly" in dictionary terms

A. Follow escalation matrix in case of any grievance

- Before complaining about and expressing grievance, be very clear of the objectives, i.e. why do you need to complain and what do you want to accomplish in the long run
- Adhere to the **Escalation Matrix** for Internal Grievance Resolution
- Write an email to the designated official at each level of the matrix, according to the guidelines and formats provided.
- Follow up with the concerned official, if the grievance or complaint is not addressed within the standard TAT at that escalation level.
- Document all records of emails and phone calls until the issue is duly addressed and closed.
- If the concerned official, at a certain level, does not address the grievance within the TAT, escalate and carry forward the issue to the next level.
- Repeat process from 2-6.
- On resolution of the grievance, phone or email the concerned authority to thank them.

B. Addressing Worker's Grievance

- Hold an official yet private meeting with the worker.
- Acknowledge the grievance and empathize.
- Sustain confidentiality of the entire matter.
- Invite witnesses, if deemed absolute essential.
- Depending on the intricacy of the grievance, continue with further investigation.
- Obtain information to support your decision.
- Take the final decision.
- Escalate the matter to the immediately next level, if the worker is not satisfied with the decision taken.

C. Addressing Client's Grievance

- Do not contradict with or avoid the client from talking.
- Listen actively and patiently.
- Apologize and empathize with the client.
- Listen to the grievance / complaint with an open mind.
- Promise that you will get back to him / her with a permanent solution without delay.
- Keep your promise and respond to the client with a solution within the standard TAT.
- If you are unable to resolve the problem on your own, escalate the same to your next level.
- Follow up with the concerned officials till the grievance is addressed and the issue resolved.
- Let the client know over email or phone that his / her grievance has been taken care of.

Summary

- In all companies, departments like operations, management, and recruitment play a great role.
- One's supervisor is supposed to be one's mentor at work.
- Certain things, at times, lead to time constraints.
- A Technical Support Executive - Voice must connect and coordinate not only with clients, but with seniors and supervisors in the organization as well.

Notes

Exercise

Fill in the blanks

1. _______________ Communication allows us to understand the problems that our colleagues are facing.
2. In case of IT companies, ______________ plays instrumental role in generating revenue.
3. Seeking and following up for ____________ is another way to improve the quality of work.
4. A Problem can be defined as a difficult or _______________ situation.
5. The employees can share the information through secure __________________.

Answer the following questions:

1. Why is it important to know the process of communication with clients?

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2. How can a Web Developer improve his/ her performance based on review?

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QR Code

Scan the QR Code to watch the related video

https://youtu.be/ujVbZ2NpDnw

Significance of Healthy Team Bonding in Ideal Work Culture

10. Managing Health and Safety

Unit 10.1 Occupational Health and Safety

SSC/ N9003

Key Learning Outcomes

At the end of this module, the trainee will be able to:

1. Describe how to maintain a healthy, safe, and secure environment at the workplace

Unit 10.1 Occupational Health and Safety

Unit Objectives

At the end of this unit, the trainee will be able to:

1. Discuss the importance of complying with organizational health, safety, and security policies and procedures
2. Discuss possible roles and responsibilities that an employee can take up concerning workplace safety management
3. Evaluate sample organizational emergency procedures
4. Identify mechanisms to improve workplace health, safety, and security
5. Label appropriate personal protective equipment needed for a job role

10.1.1 Occupational Health and Safety

Some important points in the operations related to reporting and response related to safety breach are:

- Safety breaches in the designated premises are "Incidents" that need to be reported and duly responded to.
- Reporting a safety breach is done by providing an Incident Report.
- An Incident Report must comprise the following aspects:
  - The person/s involved (details of the offender/s)
  - What exactly happened
  - Number of casualties
  - Where it happened (location of the incident)
  - When did it happen (Exact time, when the incident took place)
  - Why it happened (factors that caused the incident; the holes and gaps in the existing security system)
  - Description, features, peculiar features and condition of the affected people, vehicles, properties, and goods

Notes

____

____

____

The common format of the Incident Report is given below:

INCIDENT REPORT

Day/Night: ____________________ Date: _______________ Time: _____________

Report Writer (Print) Name: ____

Co No: __________________________

Company: ______________________________ Section: ______________________

Telephone no: __________________________ Extension: ____________________

INCIDENT: (Summary: (Who, what, where, when, why, how, etc.)

Fig 10.1 Sample incident report form (1)

Notes

____

____

____

____

ACTION TAKEN BY SECURITY:

____

____

____

____

RECOMMENDATIONS/COMMENTS/REFERENCES:

____

____

____

____

Copy to Client: ____________________ **Date:** _______________

Fig 10.1 Sample incident report form (2)

10.1.2 Fire Safety

Perform Fire Evacuation Steps

The full form of EHS is **Environmental Health and Safety.** It is a discipline that studies and deploys the practical aspects of environmental protection and safety at work. Simply, it is what organizations and workshops must do to ensure that their actions do not cause harm to anyone.

The EHS commands that there must be specific escape routes or safety evacuation points. This includes thorough plans or blueprint of the building which is understandable to anyone.

Each floor of the workshop or building must have the Safety Evacuation Map. These are mainly applicable for cases of Fire outbreaks or natural calamities like Earthquake, Flood, etc.

The sequence of an Evacuation situation is given below:

1. Detection
2. Decision
3. Alarm
4. Reaction
5. The movement to an area of refuge or an Assembly station
6. Transportation

Fig 10.2 Fire Escape Plan

Carry out Evacuation of Casualty and Premises Tasks

Briefing and Guidance for Fire Fighters

There are basically three methods with the help of which people can be rescued from a building engulfed in fire. To ensure on-site reception, here are two of the important steps that must be taken into consideration. These come under the best safe carrying and lifting practices.

Conventional Technique

- This is a good method if there is an open area nearby
- The first rescuers will make the victim sit reach under their armpits and grab their wrist
- The other rescuer will cross the ankle (victim) and pull up that person's legs on his shoulder
- Finally, on the count of 3, both will lift the person up and move out

What to do during Bomb Threat?

- Don't be panic-stricken and try to keep your calm
- Open the emergency exit gate so as to propagate the evacuation process
- Think ahead and consider places where a bomb can be planted
- Don't assemble in the common assembly area because terrorists want to kill as many people as possible. The common assembly area is the place where the evacuees assemble and therefore the possibility of killing a maximum number of people is in the common assembly area. Do not consider the common assembly area during the evacuation at the time of bomb threat. Always assemble at a place which is not premeditated.
- Inform the local police immediately
- Evacuate immediately after receiving a bomb threat and don't wait until something is found after investigation
- Document everything and submit the documentation to the concerned authority
- If anything suspicious comes into sight, barricade it with red ribbon maintaining a diameter of 100 meters. Ensure that no one comes within the boundary. Bring sandbags and put them around the barricade to minimize the effect of the blast
- Don't try to touch any suspicious object and wait for the police to arrive at the spot to diffuse it

Fig 10.3 Proper evacuation procedures during bomb threat

For Fire Outbreak:

The emergency and evacuation procedures are given below:

- A clear passageway must be present to all escape routes
- Signage like escape routes should be clearly marked
- Don't use the Elevator during a fire
- All people at the workplace must be given brief instructions about the positions of the escape routes

- Enough exits and routes must be there for all people to escape
- Emergency lighting (Infrared lights for night and blurred vision) must be present
- Emergency doors, that open easily, must be present
- Brief instructions must also be given regarding the availability and use of fire extinguishers
- The workplace must have a safe meeting point or assembly area for the staff

Correctly demonstrate rescue techniques applied during fire hazard:

A. Responding to Fire

- The Fire Alarm System must be initiated and an alert must be raised
- The appropriate class of Fire Extinguisher must be chosen
- A safe evacuation path must be identified before dealing with the fire
- Immediate evacuation must be initiated if the extinguisher is exhausted and the fire still exists
- Call the workplace security or the local emergency services
- Summon the fire-fighting services at the earliest
- Look out for the nearest emergency exit routes and call out for people, who you can take along with you
- Always use a staircase and not the elevator
- While opening a door, first touch the door with the back side of your palm
- The P.A.S.S technique must be adopted for extinguishing the fire
- Always move downstairs and avoid returning to the burning premises, till the fire-fighters arrive
- As you move out of the building, gather people, whoever you come across
- Stay as far as possible from smoke, because smoke may comprise toxic gases
- Cover your mouth and nose with a damp cloth to protect yourself. If possible, help your colleagues (those who are with you) to repeat the same
- Keep doors open, after you open them
- Start moving out of the building and ask your colleagues to do so
- Do not rush

B. Initiate Evacuation

- Stop your work and move out safely and without spreading panic
- Carry only the most important items like cell phone
- Await instructions from the Safety Committee
- Leave the workplace from the nearest door bearing an "Exit" sign
- Report to the designated Assembly Area
- Incorporate first aid treatment to anyone in need

For Natural Calamities / Disasters:

A. Flood and Storms

The emergency and evacuation procedures are:

- Move to the high grounds and help others move before the flood strikes
- Stay alert, avoid panicking and monitor the surroundings with eyes and ears open
- Accumulate disaster supplies like:
  - Canned, dry, ready-to-eat and packaged food, which do not require refrigeration or cooking
  - Liquid cash
  - Drinking water in clean containers
  - First Aid Kit
  - Adequate batteries
  - Flashlights
  - Essential clothing
- Instruct people around you not to drive
- Shut off the Mains Supply (electricity) at the circuit breakers
- Do not walk or swim through the flooded water
- Stay alert for evacuation calls and help people identify alternate routes of getting there

B. Earthquake

The emergency and evacuation procedures are given below:

- Inform others in the area by raising an alarm if they have not heard it while you are evacuating yourself
- Quickly shutdown any hazardous operations or processes
- Exit the room
- Take jackets or other relevant clothing material needed for protection from the weather
- If possible, close windows and doors as you leave, but avoid locking the doors and emergency exit routes
- Exit the building and walk to the nearest safe exit route.
- Do not run.
- Do not use elevators.

For Accidents:

The emergency and evacuation procedures are:

- Summon emergency medical help by ringing the Safety Committee officials or the toll-free number
- One must inform the immediate supervisor about an injury or illness
- Check and examine the site, to gather as much information as possible, so that the same can be provided to the emergency team, once it arrives

- One must extend help and assistance to others
- If possible, workers may treat themselves to first aid or ask colleagues to do so

The general steps involved in carrying out an evacuation are:

- Stop your work and move out without spreading panic
- Gather and carry only the most important items like cell phone
- Report to the designated Assembly Area
- Leave the workplace through the nearest door bearing an "Exit" sign
- Await instructions from the Safety Committee
- Incorporate first aid treatment to anyone in need

Evacuation and emergency procedures for the especially abled:

With Impaired Hearing

  - Turn lights on/off to gain the person's attention, or specify directions with gestures, or write a note with evacuation directions

- The Visually Impaired
  - Announce the type of emergency
  - Offer your arm for help
- People with Prosthetic Limbs, Crutches, Canes, Walkers, etc.
  - Evacuate these individuals along a route specially designated as injured persons
  - Accompany and assist to evacuation site if possible
  - Notify emergency crew of their location
  - Use a sturdy chair, or a wheeled one, to move the person to an enclosed stairwell

10.1.3 Respond to Emergency Situation

How to Respond to an Emergency Situation

An **Emergency** can be defined as "a serious, unexpected, and often dangerous situation requiring immediate action." Responding to an Emergency situation while working at the site involves the given steps:

Undertake first aid activities in case of any accident, if required and asked to do so

- First Aid is an emergency care or treatment given to an ill or injured person before regular medical aid can be acquired
- Before administering First Aid to a victim, one must check the category and degree of emergency and then apply the techniques accordingly
- Stop and take a look at the scene, and the person before reacting

- Ask yourself the following questions:
  - What is the casualty?
  - What happened exactly?
  - What is the category and nature of the emergency?
  - Is the accident dangerous for the victim?
  - Is anyone else available at the place to assist?
- Do the following if the victim is conscious and injury is not dangerous:
  - Ask for the victim's consent before providing first aid.
  - Use appropriate PPE, if possible.
  - Interview the victim to ask basic medical questions, so that accurate information may be provided to the Emergency Medical Team, once it arrives.
  - Conduct a thorough check for unnoticed injuries.
  - Ensure appropriate care and technique.
- If the victim is unconscious, try reviving the person by addressing him / her, rubbing shoulders, hands or the sole of feet
- Use the AED and use it, along with Artificial Respiration

Report hazards that you are not competent enough to deal with to the relevant person in line with the organizational procedures and alarm others who may get affected

- As an important part of the emergency management procedure, any workplace must designate a Safety Committee, which comprises liable and senior people from all departments and teams
- This committee would act as the legislative body, the authority and the first point of contact for reporting any hazard, potential risks / threats and emergency situations in the workplace
- This committee would also be liable to conduct training sessions, safety audits, and drills, to help all employees prepare themselves for emergency and unprecedented situations
- The list of the committee members, their designations and job titles, as well as contact numbers, must be listed and circulated among the employees
- The Safety Committee must comprise important members from the following departments:
  - Supervisor/Manager/Team Lead from each project
  - Security Services
  - Building Operations and Maintenance team
  - Counselling and Psychological Services team
  - Emergency Medical Services
  - Reception/Front Desk
- This list must be put up for easy display at popular parts of the workplace, in the form of an Emergency Escalation Matrix and must be updated daily

- Furthermore, this list must be mandatorily included in every First Aid kit in the workplace premises, so that a person treating a victim with first aid techniques may call for additional help and report the accident

Practice no Loss for Company Due to Safety Negligence

- Safety negligence at the workplace or even at home can prove to be lethal to the individual. So to ensure that there no chances of safety carelessness, companies should follow these aspects:
- The companies should ensure that the wiring in the workplace is insulated
- No malfunctioned machinery should be kept with the new or spare ones
- No sharp objects or equipment are kept on the walkway
- First aid kit should be kept either at the reception or in a separate medical supply area
- There are no open or damaged sockets

Practice regular safety drills for being prepared in the event of a fire or natural calamity

- The first step in this process is to raise the alarm as all companies and workshops do have push-glass fire alarm system. Breaking the glass and pushing the alarm button should be the first step to let the people know that the building is on fire.
- On hearing the emergency evacuation alarm, the foremost thing that a person must do is cease and wind up all activities and look for an exit path.
- The next should be to find out the place where the fire started.
- It should be followed by tackling the fire with an appropriate fire extinguisher.
- Meanwhile, a person from that workshop or building should call for emergency help services like ambulance and fire brigade officers.
- People should take the stairs to get out of the office building instead of using the lift.
- Every company should keep folding wheelchairs so that company employee or even visitors can transport individuals with severe mobility impairments or health.
- It is important that all individuals emptying the building should be calm and composed

The method of using a fire extinguisher is to follow the method: P.A.S.S.

PASS is the acronym for:

Pin (P)

Aim (A)

Squeeze (S)

Sweep (S)

1. To use an extinguisher in a proper way, the first step is to pull the handle's pin
2. The next step is to aim the extinguisher's nozzle. The direction should be toward the fire's base. This is because the sprayed foam at the top will diminish or extinguish only the fire at the top. This will not serve the purpose for which the extinguisher is used and the burned down flame may spring up to life if it gets enough oxygen or any combustible material.

3. Then in an extremely controlled manner, you need to release the agent. This is done by squeezing the trigger.
4. You already know that you should direct the nozzle at the fire's base. You must sweep the extinguisher's nozzle from left to right. Continue with this process until you put out the fire as you need to act fast as most extinguishers' discharge time is nearly 10-20 seconds.

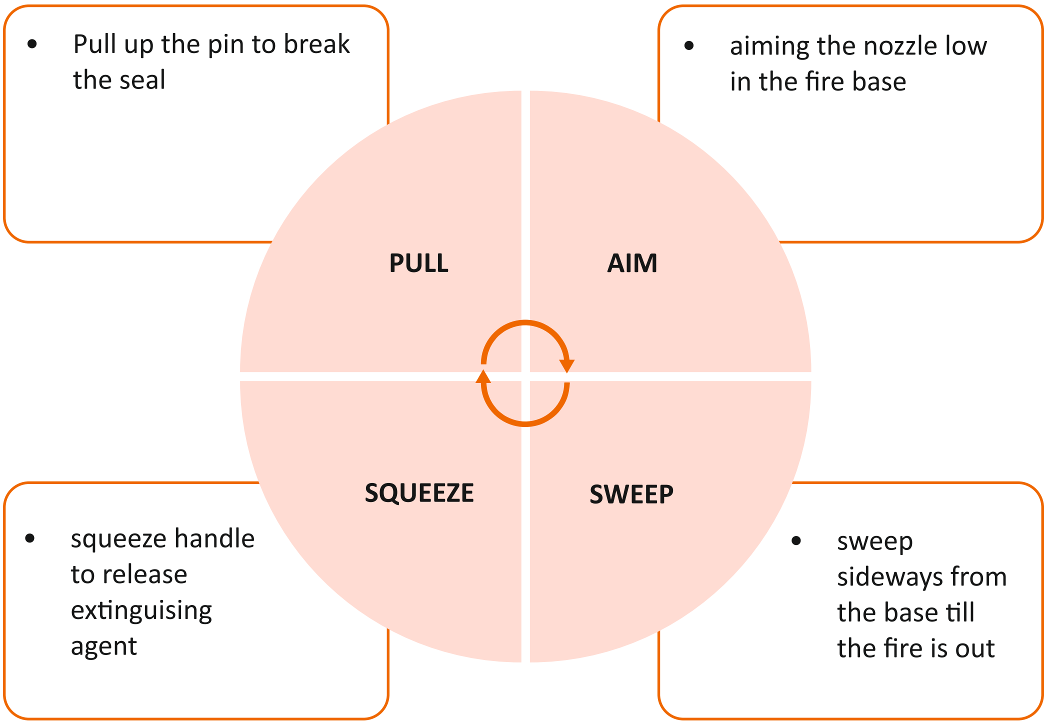


Fig 10.4 P.A.S.S technique for firefighting

Participate in emergency procedures

- **Raising Alarm:** Fire Alarms may either have a "Break Glass" or a "Pull / Push" mechanism. In case of the break glass system, the glass sheet must be forcefully hit with a clenched fist. One must continue repeating the process until the glass breaks. In case of the "Pull / Push" systems, one must break the glass first and then either pull down or push up the lever to raise the alarm.
- **Correct Assembly Point:** Proper instructions must be given to the workers about the site of and the directions to the correct assembly point in the workplace. Information about this must be given during mock evacuation drills and training sessions as well.
- **Safe and efficient evacuation:** Suitable evacuation procedures must be adopted for the common public and for especially abled persons. Specially-abled persons must be helped to evacuate the place by giving them access to Wheelchairs and other aids.
- **Roll call:** Once everybody has evacuated the building / workshop and arrived at the Assembly Point, Roll call or Head Count must be done to ensure that nobody is left behind in the affected area. This must be done mandatorily to ensure that everybody on the premises is safe.

- **Correct return to work:** Evacuation must be conducted in a very streamlined, organized, and noiseless manner. Likewise, everybody, who had evacuated the workplace, must return to his / her respective locations / positions / seats, following normal or emergency routes, depending on whether the situation has been re-established to normal or not. Once everybody is back in place, another Roll call is taken.

Demonstrate how to free a person from electrocution

Electrocution is injury or death caused due to electric shock. The following steps must be adopted while freeing a victim from electrocution:

- **Approach**
    - The first step is to approach the spot to find out if you run the risk of electrocution as well
    - Call for help from a colleague, who is trained in treating electrocution victims
    - Inspect the accident scene to ensure if the source of electrocution is still active
    - Inspect if the victim is still in contact with the source of shock

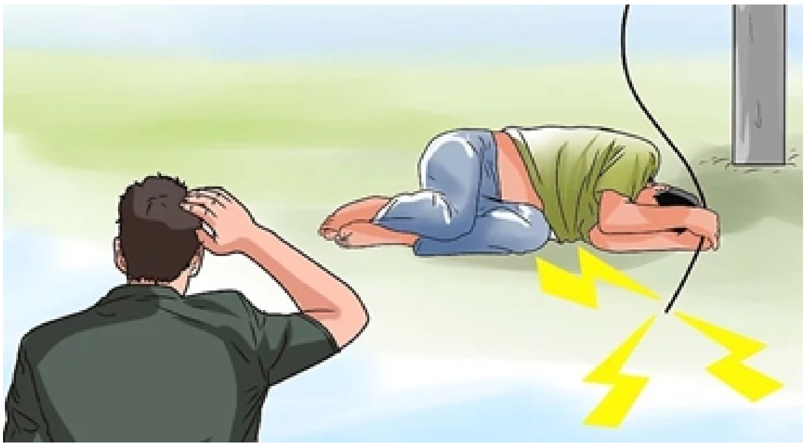


Fig 10.5 Approach the victim and inspect the accident from a safe distance

    - Detach the main power supply of the area
    - Dodge any electrical conductors in the surroundings
    - Touch the victim only if all power sources have been deactivated

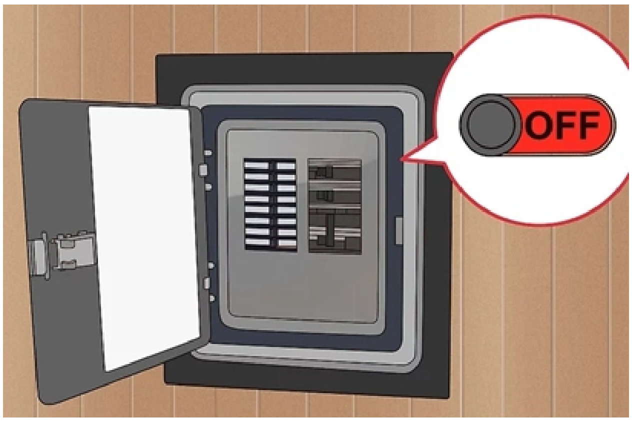


Fig 10.6 Disconnect the source of power

- In case it is impossible to deactivate the power supply, the victim must be removed from the location of the live power source.
- This should be done by wearing appropriate PPE.

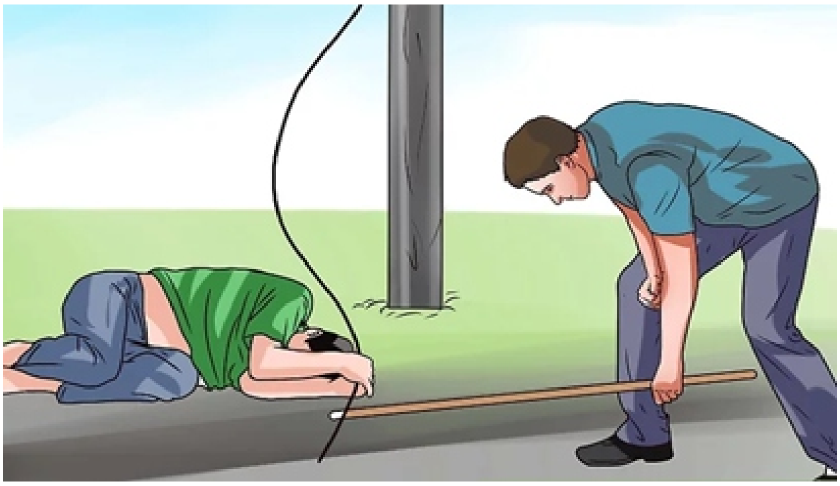


Fig 10.7 Use insulators to approach the victim of electrocution

- The victim must not be removed in case of neck or spine injury.
- The area must not be crowded so as to allow sufficient breathing air.
- The victim's pulses and breathing rate must be checked.
- CPR may be provided if required.

Fig 10.8 Perform CPR if required

- Never touch the victim or the surroundings without detaching the main power supply.
- Wear appropriate insulating gloves and shoes in order to protect yourself from electric shocks.

10.1.4 Emergency Procedure and Reporting Accident

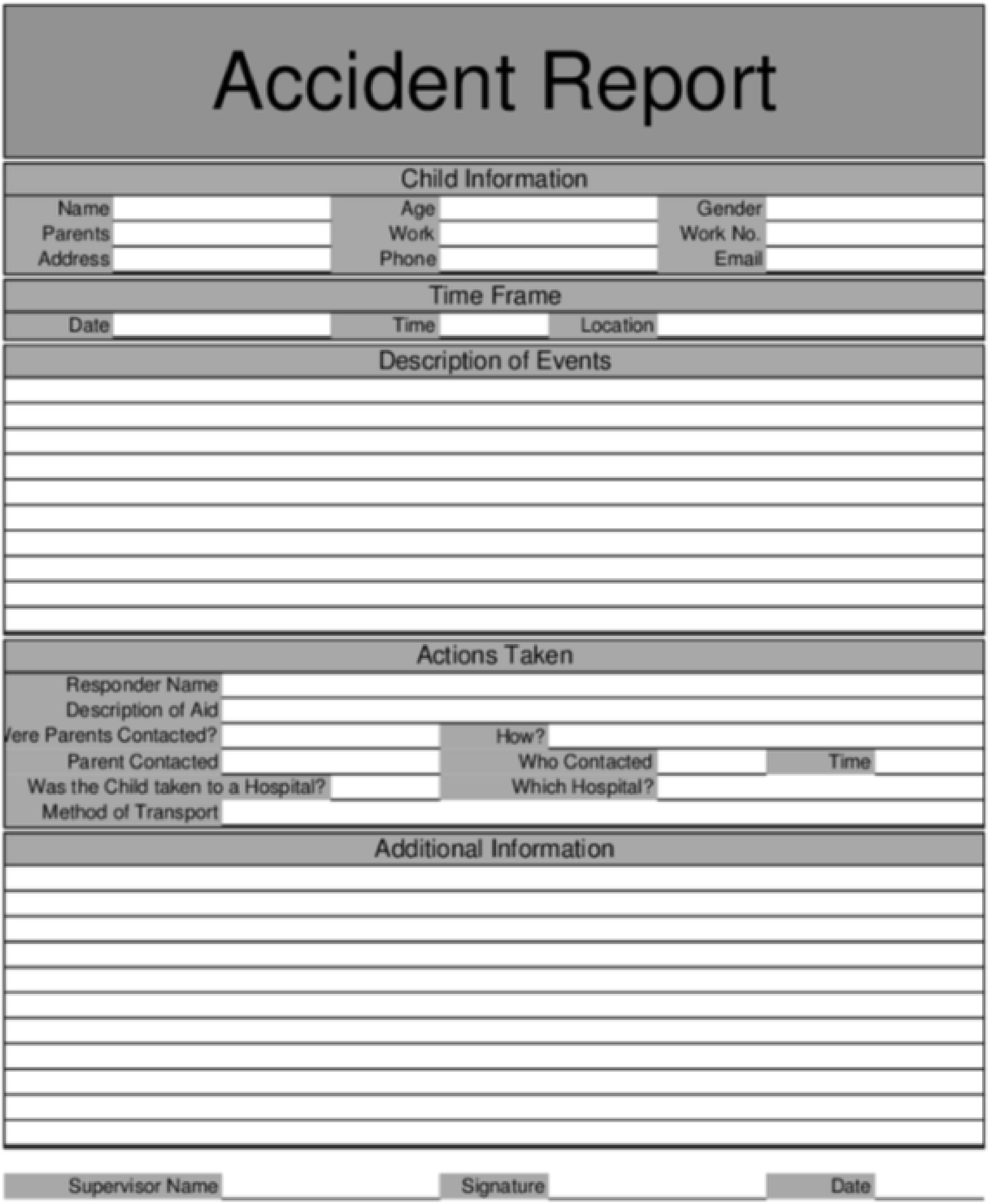
Follow the organization's emergency procedures quickly, efficiently and calmly

Evaluating the Emergency

- One must rationally and critically think and assess the severity of the emergency and determine, what requires to be done on an immediate basis
- One must remain calm and composed during an emergency situation since stress during an emergency complicates things and may confuse a person
- The emergency dispatcher aims at providing instant and appropriate help based on the nature and degree of emergency
- One must look for additional help by calling up the emergency toll-free number, which would help the caller reach an official or 'dispatcher'
- One must help the dispatcher by answering his / her questions and providing the dispatcher with the precise location and nature of the emergency
- It is suggested that one should call from a GPS equipped phone so that the dispatcher is able to track the location, even if the caller is unable to speak
- One must be aware of the nature of the emergency, i.e. whether it is a medical, mental health or behavioral emergency
- One must evaluate the immediate threats, for example, in case a person is severely injured from a running machine, the machine must be turned off instantly to prevent others from getting hurt as well

Handling the Emergency

- Extremely high casualties must be informed to the Occupational Health and Safety Committee (OHSC)
- One must move farther from the emergency spot and help others follow the same
- Secondary Hazards must be removed or mitigated, at least. For example, a car accident comprises the risk of a violent explosion and fire outbreak resulting from spilled fuel
- One must not feel guilty if nothing can be done to help the others
- In case nothing can be done to lessen the severity of the situation, one must provide support to the others by uplifting them mentally, inquiring about their medical history, noting events as they occur, etc. This information may prove vital for the emergency response team
- One must help the other victims and take suitable measures to assist the specially abled ones
- One must refrain from moving a severely injured victim and provide only the basic first aids
- Once the emergency team arrives, assist them with all required and relevant information
- A First Aid kit must be used if required
- One must try reviving a seemingly unconscious victim by rubbing the chest, pinching the earlobes, providing Cardiopulmonary Resuscitation (combination of chest compression and artificial respiration)



Accident Report

Child Information

Name		Age		Gender	
Parents		Work		Work No.	
Address		Phone		Email	

Time Frame

Date		Time		Location	

Description of Events

Actions Taken

Responder Name

Description of Aid

/ere Parents Contacted? How?

Parent Contacted Who Contacted Time

Was the Child taken to a Hospital? Which Hospital?

Method of Transport

Additional Information

Supervisor Name Signature Date

Fig 10.9 Sample form of reporting accidents

A. Work safely at all times, complying with health and safety legislation, regulations and other relevant guidelines

- Ensure that all emergency route maps are on display in the accessible places on all floors of the building
- Ensure that appropriate Fire Extinguishers are present on all the floors of the workplace
- Learn and abide by company policy and procedures for dealing with security risks in the establishment
- Ask your supervisor how you may retrieve PPE and its maintenance and storage
- Stay aware that confined spaces must bear suitable signs, to restrict claustrophobic people from accessing them

B. Ensure that health and safety instructions applicable to the workplace are being followed

- Lighting should be satisfactory in all areas and additional bulbs should be kept handy
- While using cutting tools, the direction of cutting should always be away from your body
- Arrange for frequent Safety Drills and Trainings for employees to endorse safety awareness
- Ensure that all manual cutting tools must be honed in advance because blunt tools may slip and lead to deep cuts
- Have a clear idea of how much authority and accountability you have to deal with security risks, including your legal rights and duties
- Learn and abide by company policies and procedures for maintaining security while you work

C. Check the worksite for any possible health and safety hazards

- Employ a Safety Supervisor in the workshop
- Have your employer develop a daily checklist for all areas delegated to suitable employees
- This Safety Supervisor will stay accountable for checking the worksite for potential health and safety hazards

D. Follow manufacturers' instructions and job specifications relating to safe use of materials specifically chemicals and power equipment

- Ensure that all Chemical Solutions used on display shelves or for Housekeeping purposes must be used only after mentioning to the relevant MSDS (Material Safety Data Sheets) or Instruction Manuals
- Loosely fitted clothes must be totally avoided because the loose ends may get caught in powered machinery and tools and may be lethal
- Ensure that you read the Instruction Manual thoroughly before using powered tools and equipment.

E. Follow electrical safety measures while working with electrically powered tools & equipment

- Powered tools and equipment must be reviewed for any damage, before and after every use.
- Damaged switches must be reported to the supervisor and repaired with immediate effect
- Plugs must be checked for missing or faulty prongs / pins.
- The power cord must be assessed carefully for any fraying, faults, cracks or loss of insulation.

F. Ensure safe handling and disposal of waste and debris

- All walkways should be free of clutter and debris, to avoid trips and falls.
- Any spill should be cleared off instantly and 'Wet Floor' or 'Work in Progress' signs should be used in suitable places.
- Store equipment, Tools and Chemicals should be stored correctly, abiding by all instructions provided in the Instruction Manual and 'Directions for Use'.

Ensure electrical safety compliances and EMI/EMC hygiene requirements are met as per the guidelines

- The risks associated with the use of electrical equipment are extended to both the user and his / her surroundings in the workplace. Few of such risks are mentioned below:
- Lethal Electrocution accidents
- Non-fatal electric shocks leading to serious burn injuries
- Non-fatal yet severe shocks leading to damages caused to the internal tissues and vital organs like the brain and the heart
- Non-fatal yet painful static electric shocks
- Falls from cranes, ladders, and scaffolding and resulting mechanical injuries due to electric shocks
- Explosions and fire outbreaks caused by the sudden ignition of flammable materials
- Health issues like nausea, muscle spasms, unconsciousness, and palpitations

Identify and modify any hazards that you can deal with competently, safely and within the limits of your authority

Safety

- **Operational safety**
  - Employee safety
  - Building and plant safety
  - Process safety
  - Accident prevention
  - Emergency management
  - Risk management

- **Safety of chemicals and biological materials**
    - Handling
    - Safety data, documentation
    - Storage
    - Transport

Security

- Personnel
- Products
- Knowledge
- Physical assets
- Information (not covering core IT security like data access control, firewalls, virus Protection etc.)

Health

- Health protection at the workplace
    - Industrial hygiene
    - Occupational medicine
    - Accident prevention
    - Noise
    - Occupational toxicology
    - Stress, mental health
    - Biosafety
    - Ergonomics
    - Radiation protection
- **Health promotion**

Environmental Protection

- **Emissions**
    - Into the air
    - Into the soil
    - Into the water
- **Waste**
    - Avoidance
    - Disposal
    - Re-use, recycling

- **Resources, including energy**
  - Change to best alternatives
  - Eco-balance
  - Efficient use
- **Remediation of existing contamination**

The management of SHE issues should be organized and clearly communicated. For this reason, it is ideal to encourage the use of a framework that includes each of the basic steps in a management cycle.

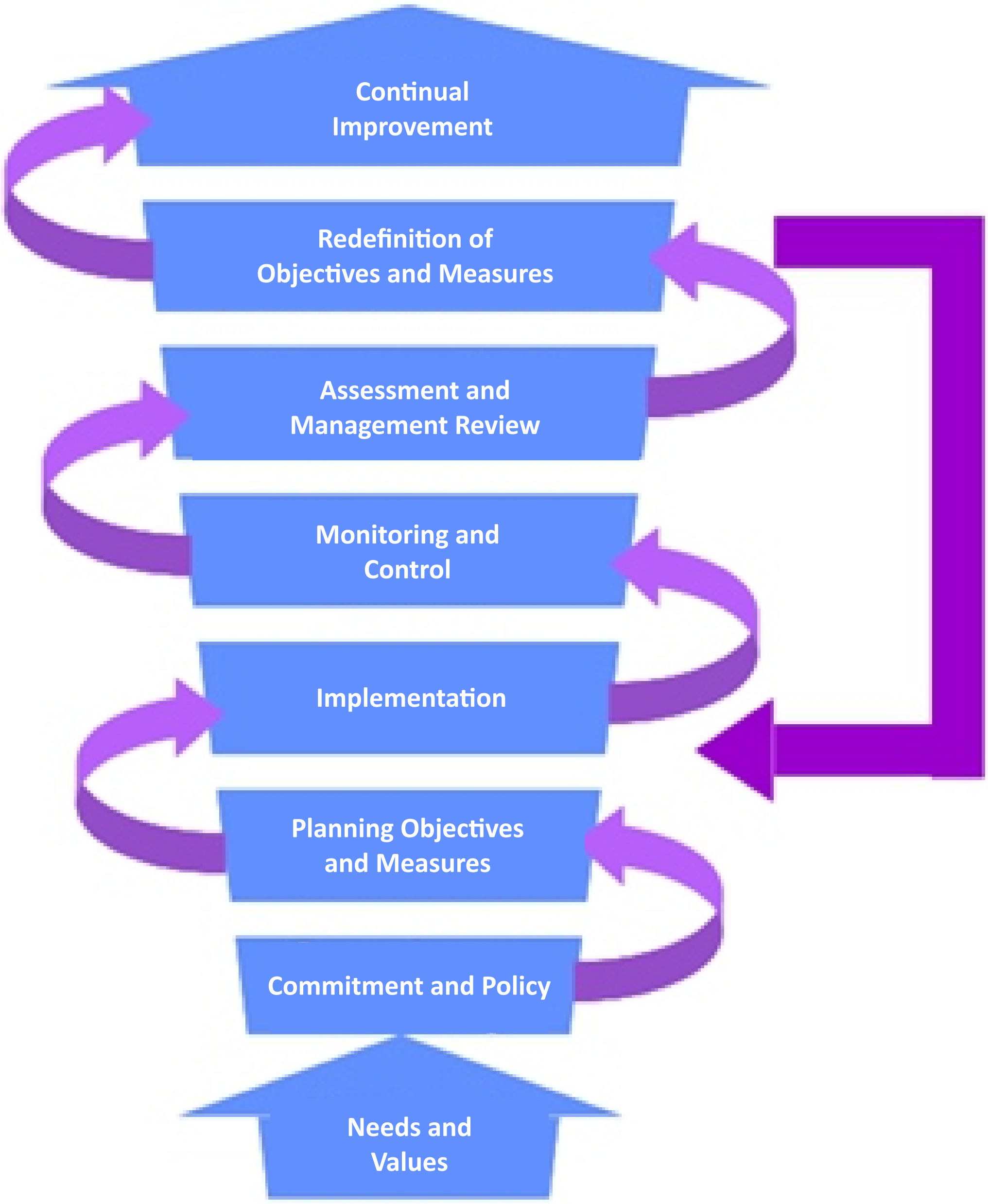


Fig 10.10 Step-by-step evaluation and implication of SHE aspects

10.1.5 Government Agencies for Safety at Workplace

Identify and recommend opportunities for improving health, safety, security to the designated person

- **Hazard and Operability (HAZOP) Study**
  - This technique involves a structured and methodical examination of an present method / procedure, thus, in turn, classifying and assessing the associated hazards.
  - These hazards can be easily recognized in the form of Deviations in the process parameters (physical conditions and elements like flow, temperature, pressure, humidity, etc..
  - A Deviation is a manner in which the process conditions stray away from the probable values.
  - The severity of Deviation can be illustrated with the help of specific and prearranged Guide Words
- **The steps involved in conducting HAZOP are:**
  - Segregating the entire system or process into components or sections
  - Select a study node or point
  - Define the predictable outcome or consequence
  - Choose a process parameter, based on the expected consequence
  - Use a suitable Guide Word
  - Find out the Cause behind the deviation
  - Start with the cause that may lead to the worst possible consequence
  - Evaluate the deviations thus detected
  - Plan and prescribe action
  - Record and document information
  - Repeat the process from B

Common examples of process conditions / parameters are given below:

- Temperature
- Pressure
- Flow
- pH value
- Signal
- Mixing
- Viscosity
- Time
- Control
- Separation
- Addition

- Reduction
- Communication
- Sequence

Creating reports with comprehensive information is a must for every organisation. The main idea behind this is to let the management body of the company as well as HSE to know the hazards at the workplace.

With the help of such reports, the company can examine, pinpoint the risks, and carry on the essential improvements within the organisation. Because of such reports, companies can recognize long-term risks and short-term risks and achieve remedial actions for those risks.

In case of security-related issues or health-related issues, it is always a better choice to inform your supervisor or seniors.

A company can function in a systematic, smooth and successful way if it looks after the satisfaction of its employees. OH & S is one of the safety platforms where every corporation has to meet the safety guidelines.

Three specific articles (as per Indian constitution) ensure occupational safety and health for workers. Those Articles are:

- 42
- 39(e and f)
- 24

Some government agencies that look into the safety and security of individuals at the workplace are follows:

- Labour Departments (for both UT and State)
- Ministry of Labour
- Government of India
- NSCI (National Safety Council of India)
- National APELL (Awareness and Preparedness for Emergencies at Local Level)

Complete Any Health and Safety Records Legibly and Accurately

1. Health and Safety File

- These are electronic files that contain all the central safety and health records of the business. The other information kept in this file are given below:
- Copies of Risk assessments which covers the areas like:
    - Lifting operations
    - Lifting equipment
    - Manual Handling operations
    - Fire risk assessments
    - Lone working
    - COSHH (Control of Substances Hazardous to Health) assessments
    - General risk assessments

- Risk of violence and aggression
- Display Screen equipment workstation assessments

- For Organisation Health and Safety Risk Assessment, maintenance of risk assessment registers
- Copies of safety and health policies, guidance and procedures (local)
- Copy of the organisation's Health and Safety Codes
- List of individuals (name) who are given the liability of examining the safety and health issues. They may be like:
  - Union Health and Safety Representatives
  - Risk assessors
  - Fire evacuation officers
  - DSE (Department of Sustainability and Environment) assessors
  - First Aiders

2. Log-book for Health and Safety

This involves:

- Risk assessment
- Training to overcome such situations
- Fire drills

Some other health and safety are:

- Information based on organisational meeting with Area Health and Safety Committee
- Annual safety and health audit checklists and applicable action plans
- Checklists for safety and health induction
- Copies of Safety Matters like an official newsletter
- Health and safety training records that have information regarding:
  - Name
  - Date
  - Health and safety training's course title
  - Response like Attended or Not Attended
  - Date fixed for Web Developer training
- Fire Drill Records
- Examination and statutory inspection reports
- Material Safety Data Sheets
- Equipment maintenance and their service provision
- Record of dates for repeat of test, Portable Electrical Appliance tests and remedial action required
- Details related to emergency procedures

Summary

- Safety breaches in the designated premises are "Incidents" that need to be reported and duly responded to.
- The full form of EHS is Environmental Health and Safety.
- The first rescuers will make the victim sit reach under their armpits and grab their wrist.
- Information based on organisational meeting with Area Health and Safety Committee.
- One must rationally and critically think and assess the severity of the emergency and determine, what requires to be done on an immediate basis.
- First Aid is an emergency care or treatment given to an ill or injured person before regular medical aid can be acquired.

Notes

Exercise

Choose the correct option from the list of responses to answer the following questions:

1. **Find the odd one out in terms of the given statement:**

The supervisor or the manager should see and identify the type of breach. It is only on the basis of the severity of the breach the appropriate actions can be taken. The actions can be like:

   a. Dismissal
   b. Felicitation
   c. Warning

2. **An emergency is –**
   a. Unexpected
   b. Anticipated
   c. Predictable

3. **OHSC stands for –**
   a. Organizational Health and Safety Committee
   b. Occupational Health and Safety Community
   c. Occupational Health and Safety Committee

4. **Most fire extinguishers' discharge time is near -**
   a. 15-20 seconds
   b. 10-20 seconds
   c. 30 seconds

5. **Which one of the followings is not a P.A.S.S component?**
   a. Aim
   b. Sweep
   c. Shot

6. **EHS stands for –**
   a. Environmental Health and Safety
   b. Emergency Health Security
   c. Emergency Health and Safety

7. **Flood is a –**
   a. Natural phenomenon
   b. Artificial phenomenon
   c. Cosmic phenomenon

8. During an emergency evacuation, employees should adjourn at –

a. Nearest police station

b. Nearest fire station

c. Assembly area

9. Nobody should use the ________ during fire.

a. Stair

b. Exit door

c. Elevator

10. As an important part of the emergency management procedure, safety com a __________ Committee.

a. Security

b. Safety

c. Health

QR Code

Scan the QR Code to watch the related video

https://youtu.be/tUCJ6WxaJcQ
Evacuation Procedures for Workers and Visitors

https://youtu.be/u6fKBkDlHEE
Health, Safety, and Accident Reporting Procedures and the Importance of These

Skill India
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सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

N·S·D·C
National
Skill Development
Corporation
Transforming the skill landscape

IT - ITeS SSC
NASSCOM

11. Workplace Data Management

Unit 11.1 Data Management

SSC/ N9004

Key Learning Outcomes

At the end of this module, the trainee will be able to:

1. Describe how data/information can be managed effectively

Unit 11.1 Occupational Health and Safety

Unit Objectives

At the end of this unit, the trainee will be able to:

1. Discuss data privacy in terms of sharing and retrieving data from different sources
2. Discuss the significance of providing accurate and up-to-date information on time
3. Identify the database management tools and the importance of a CRM database

11.1.1 Accurate Data/Information from Reliable Sources

Obtain the data/information from reliable sources and Check that the data/information is accurate, complete and up-to-date

Before starting any new process, it is important that a Technical Support Executive - Voice has a proper briefing of the process. Additionally, it is also significantly important that he or she is given all the data, required materials and their sources.

The required information involves:

- Collecting essential requirements and analysis of those
- Any specific implementation procedure
- The client/s requirements
- Software related to the new process

11.1.2 Templates and Formats Used for Data/Information & their Purpose

Templates are standard formats for documenting observations. The observation includes various aspects of the company. The type or the key parameters of the template change depending on the department. For instance, the template that is used by the transport department of a firm should be entirely different to that of the technical department which take care of operations.

The information provided in the template is used for performance examination.

Different techniques used to obtain data/information and how to apply these

- **Case Studies**

  This method basically maintains that the information that is collected is based on the experience of the clients.

- **Focus Groups**

  This data or information method is reliant on group discussions with in-depth topic assessment. This can be about marketing tactics, evolutionary aspects related to data, their sources, and searches, codes, programming languages or even any form of bugs.

11.1.3 Process of Carrying out Rule-Based Analysis on Data/ Information

The rule-based study practically involves decision-making process or conditional branching. It is a design of methodology production whose basis lies in software factors - analysis of techniques to make appropriate decisions for a new project.

In this rule, we will find the presence of three or more conditions like pseudo codes or if statement. The performance requirement is the accommodation of rule engine solution.

Process of Application

1. **Select the input variables**

As there are many variables present in a new project, creation of a matrix is essential between methodologies and factors. We can see the presence of factors in methodologies.

2. **Bad Sub Rules**

There are certain types of factors that cannot be connected with other types of factors. If they are combined, this step cannot lead to the creation of bad sub rules. In this case, two rule categories are recognised. They are:

- System rules with high requirement stability, low complexity and small size system
- System rules with low requirement stability, medium complexity and size system

3. **Variable Reduction**

These factors are identified but their elimination doesn't make any impact. These generally comprise application domain and project type.

4. **Category Merge**

For methodology identification, formation of many categories takes place and its foundation can be on project type.

5. **Hypothetical Examples**

We can see the beginning of hypothetical example sets if we look at extreme cases. The rule-based analysis is based on the acknowledgment of factors like less complexity, high requirement stability, and small size.

Who to Go To In The Event Of Inaccurate Data/Information and How to Report This

In an organization, the hierarchy usually involves a singular/group of power at the top with succeeding levels of power beneath them. This is the leading mode of organization among large organizations; most corporations, governments, and organized religions are hierarchical organizations with different levels of management and power or authority.

11.1.4 Significance of providing Accurate and up-to-date Information on Time

Check the accuracy of work, involving colleagues and the formats in which you need to provide it

Every project has a stipulated timeline. A project commences with setting a goal followed by other aspects like developing, testing, and quality analysis and final deployment.

Set-up Goals

Every stage has its own format where information has to be filled in precisely. A project goal template must be implemented and details must be filled in regularly. A sample format is given below:

PROJECT GOAL AND OBJECTIVES WORKSHEET

PROJECT NAME				PROJECT MGR.	
DATE CREATED		VERSION DATE		VERSION NO.	0.0.0

TEST GOALS & OBJECTIVES AGAINST SMART CRITERIA
SPECIFIC • MEASURABLE • ACHIEVABLE • RELEVANT • TIME-BOUND

GOAL STATEMENT	
OBJECTIVE NO.	An objective should look like this: "To increase the native plants between 1st and 3rd Streets by 50% by March 31st."
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Fig 11.1 Project goal template

Notes

Summary

- Before starting any new process, it is important that a Technical Support Executive - Voice has a proper briefing of the process.
- The rule-based study practically involves decision-making process or conditional branching.
- Every project has a stipulated timeline.
- Every stage has its own format where information has to be filled in precisely.

Notes

Exercise

1. It is important to provide the executive with specific ______________ procedure.
   a. Deadline
   b. Implementation
   c. Comment
2. The full form of OSI is ______________.
   a. Open Source Initiative
   b. Outsourcing Solutions Inc.
   c. Open Switching Interval
3. One of the templates used for information or data is ______________.
   a. Software Architecture Design
   b. Relative Theory
   c. Hardware design
4. ____________________ method is dependent on group discussions with in-depth topic exploration.
   a. Discussion
   b. Focus group
   c. Coding Theory

QR Code

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https://youtu.be/CPRQvYDYrcA

Follow the Accurate Process Flow to Analyse Data

12. Inclusive and Environmentally Sustainable Workplaces

Unit 12.1 Sustainable Practices

Unit 12.2 Respect Diversity and Strengthen Practices to Promote Equality

SSC/ N9014

Key Learning Outcomes

At the end of this module, the trainee will be able to:

1. Illustrate sustainable practices in the workplace for energy efficiency and waste management
2. Apply different approaches to maintain gender equality and increase inclusiveness for PwD

Unit 12.1 Sustainable Practices

Unit Objectives

At the end of this unit, the trainee will be able to:

1. Describe different approaches for efficient energy resource utilization and waste management
2. Describe the importance of following diversity policies

12.1.1 Optimize Usage of Electricity/Energy, Materials, and Water

Greenery within and around the office premises and other corporate environments helps not only to enhance the décor of the workplace, but also has a positive impact on the productivity of the employees. Greenery helps people to concentrate on work, creates positive vibes among the workers and the visitors.

Apart from the introduction of greenery, conservation of energy and optimization of usage are equally important. There are certain essential tools and equipment that are used in every workplace, which require electricity. For example, air conditioner, light, fan, computer, coffee vending machine are such electrical gadgets or appliances which are extensively used in the offices. Similarly, steady water supply in the washroom is another important requirement. Optimized usage of all these essential energy or commodities is absolutely significant to conserve energy and create an eco-friendly work environment.

What does greenery do?

- Plants in workplaces purify the air; they reduce the concentration of CO2 (Carbon dioxide gas) and other volatile organic compounds, keeping the air fresh and healthy
- External vegetation moderates heat in and around office block in the summertime, pulling down heat stress and decreasing the necessity for air-conditioning
- Green roofs and facades proliferate insulation or the absorption capacity of heat, plummeting heating and cooling expenses
- Plants in and around office buildings release water vapour which moistens the air, dipping headaches
- 'Green views' also boost focus, and aid quicker recovery from stress
- Green environments encourage people to undertake activities such as a lunchtime walk, keeping staff alert and healthy. Long periods of sitting adversely affect health

Plan the implementation of energy efficient systems

Here are some simple energy management ideas one can implement in the work station.

- Do not use artificial lighting in offices when natural light is sufficient
- Open draperies and raise shades whenever adequate light from windows is available
- Use energy-saving fluorescent lights and lamps

- Switch off lights and appliances in unoccupied office spaces or unused rooms such as conference room. Switch on the lights and ACs/ fans during the conference
- Turn off the bathroom's fan and lights whenever they are not occupied
- Install the light sensors to remind and educate office users about wasted light
- Use rechargeable batteries for calculators and other office devices
- Turn off computers that are not used, and utilize computers' energy/power management tools (i.e. sleep mode, hibernate mode, screen saver)
- Reduce the use of lighting during night cleaning
- Keep office doors and windows closed if heating and air conditioning is on
- Switch off HVAC systems in offices when they are not in use
- Ensure thermostats are correctly adjusted
- Purchase and use high-efficiency office equipment and devices
- Set up a self-adult system for the office energy consumption

Initiatives towards efficient use of natural resources and energy, reduction and prevention of pollution

These are some measurements that help optimize the usage of energy in the workplace. However, another important aspect of optimizing the usage of energy and other materials is proper maintenance. Organizations should prepare a checklist to measure and maintain energy and material conservation. Following is a sample checklist for the energy and material conservation module at workplaces.

Category	Checklist Items
Energy management	Establishment of energy management organization, and employee education
	Energy conservation targets and investment budget setting
	Grasp status of implementation of energy conservation
	Measurements and recording of monthly usage (electricity, gas, oil, and water)
	Preparation of statistics, including graphs showing differences from previous month or year
	Grasp of energy intensity (MJ/m2/year)
	Establishment of management standards
Heat source and heat-conveying equipment	Temperature control for chilled water, cooling water, and hot water
	Adjustment of the flow rate and pressure of pumps and fans

Continue...

Category	Checklist Items
Heat source and heat-conveying equipment	Steam leakage and insulation management
	Management of air ratio and exhaust gas of combustion equipment
	Control of steam pressure and blow-down
	Cooling water quality control (electrical conductivity)
	Control of opening of valves and dampers (e.g. automatic valves)
	Grasp of energy intensity (MJ/m2/year)
Air-conditioning and ventilation equipment	Proper temperature setting
	Turning off air-conditioning for rooms not in use or unoccupied
	Adjustment of appropriate outside air intake volume
	Review of operating hours
	Effective operation of total heat exchanger (e.g. Rosunai)
	Local cooling and local exhaust
	Indoor air quality control (e.g. CO2)
	Installation of (manual or automatic) inverter device to ventilation fans
	Suspending either of the operation of a 4-pipe air conditioning system, if used
	Control of ventilation in car parking space (CO concentration control)
Water supply/drainage and sanitation equipment	Control of supplied water flow and pressure
	Water saving measures (e.g. water-saving top and automatic flashing)
	Change temperature and pressure setting on the heat source equipment depending on the season
	Operation with intervals in hot water supply circulation pump
	Utilization of rain water and well water
	Management of kitchen equipment (e.g. cooking and washing machines)

Continue...

Category	Checklist Items
Management of electric power receiving and transforming facilities	Optimization of demand
	Usage control
	Voltage adjustments
	Power factor management
Air-conditioning and ventilation equipment	Optimum illumination control
	Switching off lights when they are not necessary (use of daylight)
	Cleaning of lighting fixtures and change to more energy-saving fixtures
	Replace incandescent lamps to fluorescent lamps
	Adoption of energy-saving FFE (furniture, fixture, and equipment)
	Indoor air quality control (e.g. CO2)
Operation & management of elevating machines	Operation
	Adoption of inverter control
	Adoption of human motion sensors to escalator
	Operation with intervals in hot water supply circulation pump
Buildings	Blocking of solar radiation on the windows (e.g. shading curtains and light-shielding films)
	Blocking of solar radiation on the roof (heat reflection coating)
Others	Maintain the place around the condensing units for air-conditioning and chillers
	Utilization of heat from hot spring
	Installation of boilers using waste materials as fuel
	Utilization of solar heat
	Wind, solar, and small hydro power generation
	Use late-night electricity
	Co-generation

Table 12.1 Energy and material conservation checklist

Various energy options including renewable and non-renewable

Renewable Energy is an eternal energy source that does not get depleted on exploitation and fetch nil or minimal waste product. Such sources of energy get naturally replenished on a human timescale. The International Energy Agency (IEA), a Paris-based autonomous authority on Environmental and Sustainable Development, explains:

"Renewable Energy is derived from natural processes that are replenished constantly. In its various forms, it derives directly from the Sun, or from Heat generated deep within the earth. Included in the definition is Electricity and Heat generated from Solar, Wind, Ocean, Hydropower, Biomass, Geothermal Resources, Biofuels and Hydrogen derived from Renewable Resources."

Wind Energy: Wind energy is a form of solar energy. Wind energy (or wind power) describes the process by which wind is used to generate electricity. Wind turbines convert the kinetic energy in the wind into mechanical power. A generator can convert mechanical power into electricity.

Geothermal Energy: Geothermal energy (from the Greek roots geo, meaning earth, and from thermos, meaning heat) is energy made by heat inside the Earth's crust. Although the Sun does heat the surface of the Earth, the heat from inside the Earth is not caused by the Sun.

Solar Energy: Solar power is energy from the sun that is converted into thermal or electrical energy. Solar energy is the cleanest and most abundant renewable energy source available.

Bio Energy: Bioenergy is renewable energy created from natural, biological sources. Modern technology even makes landfills or waste zones potential bioenergy resources. It can be used to be a sustainable power source, providing heat, gas, and fuel.

Hydropower Energy: Hydropower, or hydro-energy, is a form of renewable energy that uses the water stored in dams, as well as flowing in rivers to create electricity in hydropower plants. The rotating blades spin a generator that converts the mechanical energy of the spinning turbine into electrical energy.

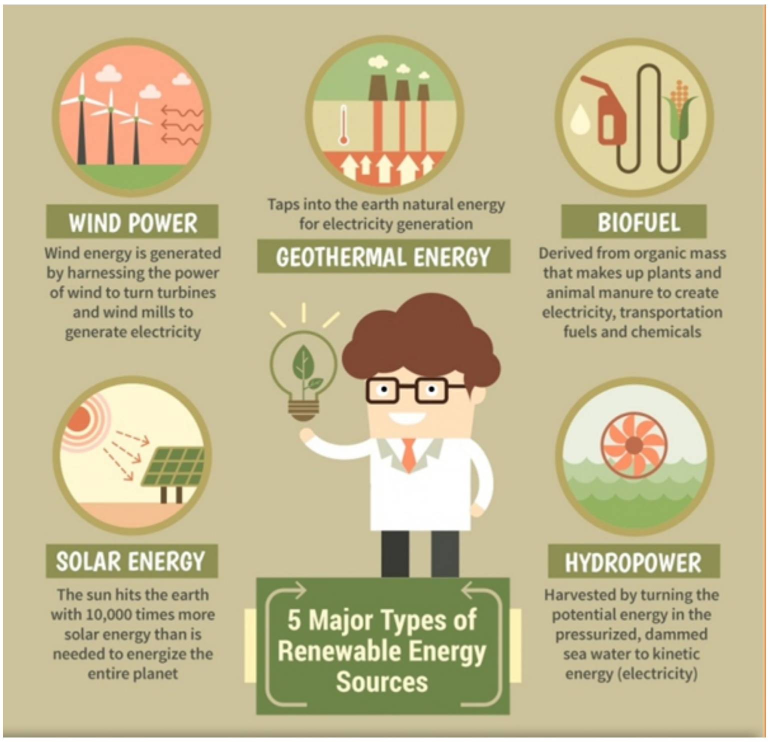

Fig 12.1 Renewable energy sources

Renewables do not emit greenhouse gases in energy generation processes, making them the cleanest, most viable solution to prevent environmental degradation. Compared to conventional energy sources such as coal, gas, oil and nuclear - reserves of which are finite - clean energies originate and adapt to natural cycles. This makes them an essential element in a sustainable energy system that allows development today without risking that of future generations.

Electricity first aid emergency procedures

The first aid kit should provide basic equipment for administering first aid for injuries including:

- Cuts, scratches, punctures, grazes and splinters
- Muscular sprains and strains
- Minor burns
- Amputations and/or major bleeding wounds
- Broken bones
- Eye injuries
- Shock

One should develop and implement first aid procedures to ensure that workers have a clear understanding of first aid in their workplace. The procedure should cover:

- The type of first aid kits and where they are located
- The location of first aid facilities such as first aid rooms
- Who is responsible for the first aid kits and facilities and how frequently they should be checked and maintained
- How to establish and maintain appropriate communication systems (including equipment and procedures) to ensure rapid emergency communication with first aiders
- The communication equipment and systems to be used when first aid is required (especially for remote and isolated workers). These procedures should contain information about how to locate the communication equipment, which is responsible for the equipment and how it should be maintained
- The work areas and shifts that have been allocated to each first aider. These procedures should contain the names and contact details of each first aider
- Arrangements to ensure first aiders receive appropriate training
- Arrangements for ensuring that workers receive appropriate information, instruction and training in relation to first aid
- Seeking information when a worker commences work about any first aid needs that may require specific treatment in a medical emergency, such as severe allergies. Information about a worker's health must be kept confidential and only provided to first aiders with the worker's consent
- How to report injuries and illnesses that may occur in the workplace

- Practices to avoid exposure to blood and body substances
- What to do when a worker or other person is too injured or ill to stay at work, for example if they require assistance with transport to a medical service, home or somewhere else where they can rest and recover
- Access to debriefing or counselling services to support first aiders and workers after a serious workplace incident

Here the steps to free a person from electrocution.

Switch off the main power.	
Don't touch the person who is electrocuted.	
Try to remove the person from the electrical source with the help of non-conducting objects like stick, cardboard, bamboo, etc.	
Lay the person in this position.	

Table 12.2 Steps to save a person from electrocution

12.1.2 Segregate Recyclable, Non-Recyclable and Hazardous Waste

Hazard is defined as a factor, which may cause harm to people and properties alike, like electricity, inflammable products, explosive material, corrosive chemical, using heavy ladders at workplace etc. Simply put, a Hazard is simply a condition or a set of circumstances that present a potential for harm. Risk is defined as the likeliness or the chance that a hazard can actually cause harm to somebody. For example, smokers of cigarettes run the risk of developing Cancer. The potential or imminent danger that Risks and Hazards expose the concerned premises to, is known as Threat. For example, a person, who has the potential of blowing up a building, is a threat to that building and its inhabitants.

The steps involved in Risk Management are:

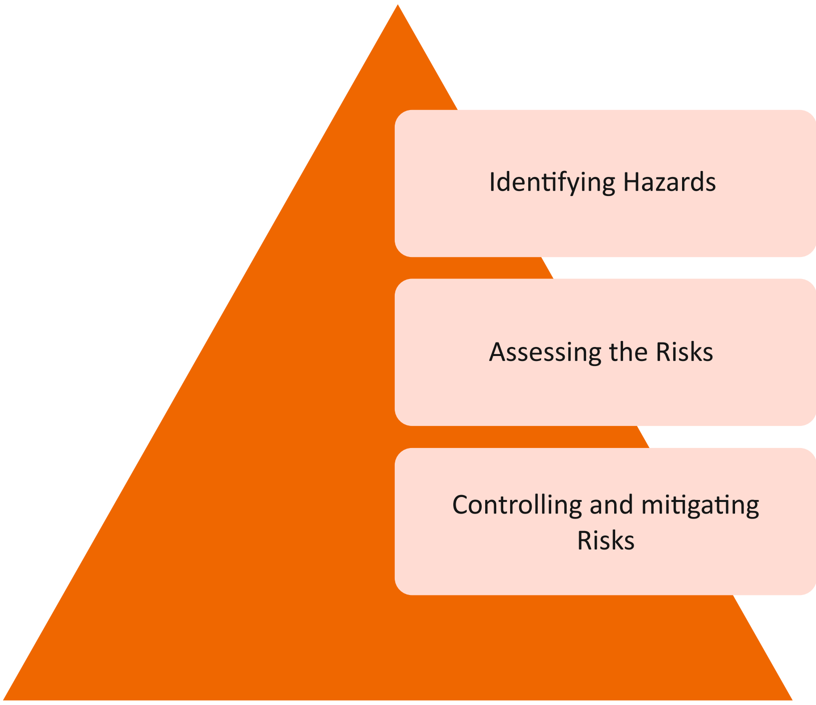

Fig 12.3 Risk management matrix

The most common waste materials procured in a workplace can be categorized in the following:

- **Liquid Waste**
    - Sludge, dirty water, organic liquids, waste water after washing
- **Solid Waste**
    - Industrial slag, plastics waste, wood waste, paper waste, metals, and glass
- **Organic Waste**
    - Biodegradable food waste, animal waste, vegetable waste, garden waste, rotten meat of animals can be deposited at Landfills or converted into Manure and Biogas

- **Recyclable Waste**
    - Paper, metals, wood, organic waste etc. can be recycled
    - Must be placed in appropriate Recycling Bin and treated according to the nature of the waste
    - For example, organic waste can be converted into manure and Biogas
- **Hazardous Waste**
    - Such waste may be flammable, corrosive, radioactive, toxic etc.
    - These can potentially harm the environment and must be placed in clearly and legibly labelled bins for appropriate treatment and disposal

Fig 12.4 Waste segregation and disposal bins

Hazards and potential risks / threats can be identified and then reported to supervisors or other authorized persons in the following ways:

Fig 12.5 Flowchart of reporting potential hazrd

Identification of hazard implies the job is half done. In order to take adequate precautionary measures against hazards, one needs to identify the hazards commonly found in the workplace. The common methods of hazard identification are:

- Job Hazard Analysis (JHA)
    - This is a popular technique to identify the perils associated with specific tasks in a job role, in order to lessen the risk of injuries to employees.
    - The steps involved in successfully conducting JHA are:

A. Divide the entire job role into small tasks or steps

Let us understand the concept with the help of an example, where JHA is being conducted on corporate work such as Customer Care Executive.StepsHazards AssociatedRecommendations

Handling tools and equipment of the trade

Working with common electrical appliances of the workspace

Stress factor of the job role

Steps	Hazards Associated	Recommendations
1. Handling tools and equipment of the trade		
2. Working with common electrical appliances of the workspace		
3. Stress factor of the job role		

Table 12.3 JHA checklist for hazard identification

B. Spot out the hazards associated with each step by asking questions like:

- What can go wrong with this task?
- What would be the consequences if the task went wrong?
- How could the task go wrong?
- What are the other contributing factors?
- What are the chances that this hazard will take place?

C. Review and discuss the scope of the hazards with the employees, who would actually do the tasks on hand

D. Find out strategies and ways to mitigate or avoid the hazards

E. Review and revise the JHA periodically

- **Hazard and Operability (HAZOP) Study**
    - This technique involves a structured and systematic examination of an existing method / procedure, thus, in turn, identifying and assessing the associated hazards.
    - These hazards can be easily identified in the form of Deviations in the process parameters (physical conditions and elements like flow, pressure, temperature, humidity, etc.
    - The severity of Deviation can be illustrated with the help of specific and predetermined Guide Words.
    - A Deviation is a manner in which the process conditions stray away from the expected values.

Guide Word + Process Condition / Parameter = Deviation.

For example, No + Signal = No Signal

- The steps involved in conducting HAZOP are:
  - Segregating the entire system or process into sections or components
  - Select a study node or point
  - Define the expected outcome or consequence
  - Choose a process parameter, based on the expected consequence
  - Implement a suitable Guide Word
  - Determine the Cause behind the deviation
  - Start with the cause that may lead to the worst possible consequence
  - Assess the deviations thus detected
  - Devise and prescribe action
  - Record and document information
  - Repeat the process from B

Common examples of Guide Words and their meanings are:

Guide Word	Meaning	Example
No (Not, None)	None of the desired consequence is achieved	No flow of gas through the gas cutting nozzle due to accumulated dirt
More (Higher than, More of)	Quantitative increase in a certain process parameter	More heat generated and higher temperature achieved than expected, during sawing operations
Less (Lesser than, Less of)	Quantitative reduction in a certain process parameter	Lower pressure than expected
As well as (In addition to)	All the design intentions are achieved and an additional activity takes place	All valves closed at the same time
Reverse	The logical opposite of the design intention takes place	The Power Drill continues drilling even after shutting down the power supply
Other Than	An unexpected activity takes place	Presence of liquid fuel in Gas Cylinder

Fig 12.4 Guide Words and their interpretation

The 3 Rs of waste optimization

- Resource Optimization - Raw materials must be used to the fullest, so that minimal waste is procured while converting the raw materials into finished products.
- Recycling of Scrap Material - Scraps, when created, must immediately be incorporated in the manufacturing process, so that they get reused completely as raw material.
- Enhanced Quality Control - This can be implemented by minimizing the number of rejects per batch. This is easily achievable with a higher frequency of careful inspection, accompanied with constant monitoring.
- Exchange of Waste - Some wastes cannot be completely eliminated from the manufacturing process. Such waste can be effectively managed via Waste Exchange techniques, where the waste procured in a certain process becomes the raw material of another, and vice versa.

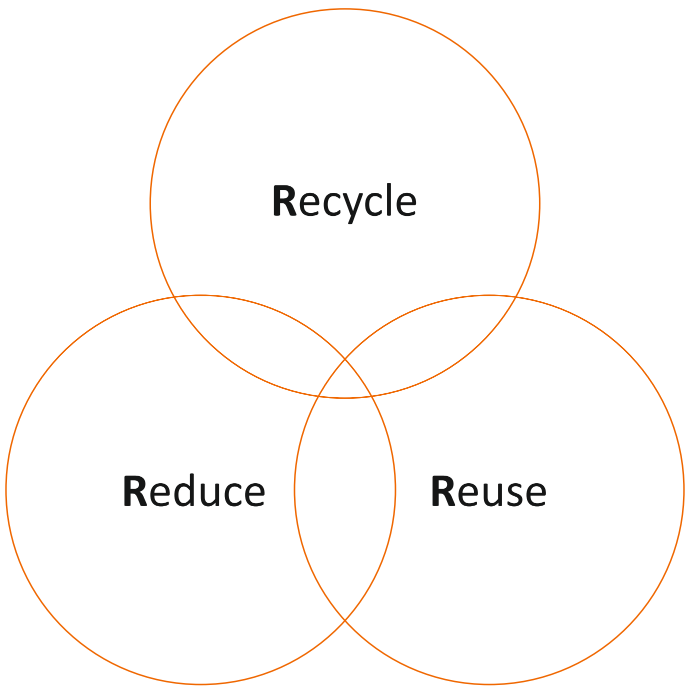

Fig 12.6 3Rs of waste optimization

Notes

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- **Landfill**
  - Waste, that cannot be recycled, is deposited and a layer of soil is added on top of it
- **Incineration**
  - Involves controlled combustion of waste
  - 90% volume of waste gets reduced and converted into incombustible, light-weight materials like ash, gases and heat
  - Gases are released into the environment while the heat is utilized in power generation
- **Biogas Generation**
  - Organic waste are biodegradable and can be converted into Biogas in Biogas Plants, with the help of certain fungi and bacteria
  - The residue, after generation of Biogas, is used as Manure
- **Manure Generation and Composting**
  - Organic waste are often left buried under soil beds
  - They decompose into rich manure, full of nutrients and minerals
- **Vermicomposting**
  - Involves the degradation of organic waste into manure, with the help of worms
  - The worms feed on the organic waste and convert them into manure

Notes

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Unit 12.2 Respect Diversity and Strengthen Practices to Promote Equality

Unit Objectives

At the end of this unit, the trainee will be able to:

1. Identify stereotypes and prejudices associated with people with disabilities and the negative consequences of prejudice and stereotypes
2. Discuss the importance of promoting, sharing, and implementing gender equality and PwD sensitivity guidelines at the organizational level

12.2.1 Concept of Gender, Gender Equality and Gender Discrimination

Policies and procedures about gender inclusivity, equality and sustainability while working with colleagues

The Constitution of India applies uniformly to equality of opportunity for all citizens (including every legal citizen of India, whether they are the disabled) in matters relating to employment or healthy or disabled. Under the Constitution the appointment to any office under the State. As a matter of fact, the employees of an organization constitute of major diversity. They come from different region, with different cultural and religious beliefs. However, the employer should provide equal opportunity to each and every employee, irrespective of gender, culture, religion. Particularly, the Indian Government has taken several measurements to ensure gender equality in the workplace. To establish women's right in the workplace, the government has passed bills. The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 is a legislative act in India that seeks to protect women from sexual harassment at their place of work. It was passed by the Lok Sabha (the lower house of the Indian Parliament) on 3 September 2012. It was passed by the Rajya Sabha (the upper house of the Indian Parliament) on 26 February 2013.

The major features of the policy include:

- The Act defines sexual harassment at the work place and creates a mechanism for redressing complaints. It also provides safeguards against false or malicious charges.
- The Act also covers concepts of 'quid pro quo harassment' and 'hostile work environment' as forms of sexual harassment if it occurs in connection with an act or behaviour of sexual harassment.
- The definition of "aggrieved woman", who will get protection under the Act is extremely wide to cover all women, irrespective of her age or employment status, whether in the organised or unorganised sectors, public or private and covers clients, customers and domestic workers as well.
- An employer has been defined as any person who is responsible for management, supervision, and control of the workplace and includes persons who formulate and administer policies of such an organisation under Section 2(g).

- While the "workplace" in the Vishaka Guidelines is confined to the traditional office set-up where there is a clear employer-employee relationship, the Act goes much further to include organisations, department, office, branch unit etc. in the public and private sector, organized and unorganized, hospitals, nursing homes, educational institutions, sports institutes, stadiums, sports complex and any place visited by the employee during the course of employment including the transportation. Even non-traditional workplaces which involve tele-commuting will get covered under this law.
- The Committee is required to complete the inquiry within a time period of 90 days. On completion of the inquiry, the report will be sent to the employer or the District Officer, as the case may be, they are mandated to take action on the report within 60 days.
- Every employer is required to constitute an Internal Complaints Committee at each office or branch with 10 or more employees. The District Officer is required to constitute a Local Complaints Committee at each district, and if required at the block level.
- The Complaints Committees have the powers of civil courts for gathering evidence.
- The Complaints Committees are required to provide for conciliation before initiating an inquiry, if requested by the complainant.
- The inquiry process under the Act should be confidential and the Act lays down a penalty of Rs 5000 on the person who has breached confidentiality.
- The Act requires employers to conduct education and sensitisation programmes and develop policies against sexual harassment, among other obligations. The objective of Awareness Building can be achieved through Banners and Poster displayed in the premises, eLearning courses for the employees, managers and Internal Committee members, Classroom training sessions, Communication of Organizational Sexual Harassment Policy through emails, eLearning or Classroom Training. It is recommended that the eLearning or Classroom Training be delivered in the primary communication language of the employee.
- Penalties have been prescribed for employers. Non-compliance with the provisions of the Act shall be punishable with a fine of up to Rs.50, 000/-. Repeated violations may lead to higher penalties and cancellation of licence or deregistration to conduct business.
- Government can order an officer to inspect workplace and records related to sexual harassment in any organisation.
- Under the Act, which also covers students in schools and colleges as well as patients in hospitals, employers and local authorities will have to set up grievance committees to investigate all complaints. Employers who fail to comply will be punished with a fine of up to 50,000 rupees.

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12.2.2 Organization's Redressal Mechanisms

Inclusive tools and practices of communication to acknowledge/validate, share and promote the cause of gender parity at workplace

Women's safety and its issues are discussed and debated all around the globe. Still every year the number of reports on sexual harassment is increasing at an alarming rate. Therefore, a certain company must take good care of women employees to ensure their safety.

So, a company must inform women about the various facilities that they are going to provide them. Some of the basic facilities include the following.

1. **Transportation facilities:**

   Transportation plays a huge role in ensuring women safety. Ensuring that the women will be accompanied by trusted drivers will help enhance women's safety. Be transparent about the security that you may provide during night trips. Every woman must be aware of the various safeguards that the company may provide.

2. **Reporting Abuse:**

   The management must be prompt in its decision making whenever there is a mishap. The ways of reporting abuse must be made clear to the woman to ensure speedy remedy.

3. **Maternity-related grievance:**

   Employers are required to inform women in writing, electronically about the maternity benefits available under the Maternity Benefit Act upon their joining the workforce

   The law allows women employees to work from home in addition to the maternity benefit period if the nature of work allows that

4. **CCTV Cameras**

   Ensure that every station is equipped with CCTV cameras which are nowadays the most vital component for investigating sexual harassment cases.

5. **Security Guards**

   Ensure that adequate amount of security guards are stationed at strategic places so that any threat to women's safety can be nullified. Ensure that the women are informed about the various places where the security guards are present.

6. **Women's Helpline:**

   Share a leaflet containing the Women's helpline number/s and other important contacts.

7. **Chain locks/latches**

   Provide women with chain locks and latches so that their luggage can be properly and securely kept and to avoid any form of theft.

8. **Smoke Detector:**

   Inform the women about the location of smoke detectors inside the premises.

   Providing these basic amenities will ensure that the women enjoy comfortable accommodation without any fear.

All forms of gender discrimination, violence and inequality

The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 prescribes a system for investigating and redressing complaints against sexual harassment of women at the workplace. It also provides safeguards against false or malicious charges.

The major provisions of the Act lay down the following responsibilities for employers, to ensure a safe working environment for women:

- Display penal consequences of sexual harassment
- Organize workshops and sensitization programs
- Formulate an internal policy, charter, resolution, declaration
- Form an 'Internal Complaints Committee' (ICC) where the number of employees is more than ten
- Provide necessary facilities to the committees
- Secure attendance of witnesses/respondent
- Monitor timely submission of committee reports
- Assist the woman in pursuing a criminal case if she so chooses
- Maintain confidentiality of the inquiry process. The Act lays down a penalty of Rs 5,000 (US$68) on the person who has breached confidentiality
- With sexual harassment being a crime, employers are obligated to report offenses

To tackle the problem of sexual harassment at workplace, the Ministry of Corporate Affairs, through a notification dated July 31, 2018, amended the Companies (Accounts) Rules 2014. The notification makes it mandatory for private companies to disclose their compliance with the Act in their directors' annual report.

Furthermore, the Act places responsibility on the appropriate state government to notify the district officer for setting up a Local Complaints Committee (LCC).

HR managers are on the front lines when it comes to changing cultural attitudes about sexual harassment.

Below are some best practices that HRs can develop to ensure safe work environment for women:

- Update the official employee handbook that outlines the procedure that will take place when sexual harassment is being experienced at work. Include an unequivocal statement that sexual harassment will not be tolerated
- Give out a clear, simple, and easy-to-understand description of what constitutes harassing behaviour or conduct, including examples of the types of behaviours that are considered harassing at the workplace
- Implement training for all to include more focus on gender identity and sexual orientation, and emphasize gender neutrality regarding who may experience sexual harassment
- Sensitize male employees and reinforce confidence among women to come forward and file complaints
- Stay updated on employment law changes where their employees live or work. HRs must also utilize professional associations, legal counsel and online resources to ensure that the company is compliant and aware of existing and upcoming legislative changes related to employee rights

Use internal & external communication to colleagues

It is often said that one's behaviour is the mirror to one's character. Indeed, your behaviour speaks a lot about the kind of person you are. Your educational degrees hold little importance if you are not a well-mannered person. You need to conduct well in almost every situation whether you appear for a job interview or pursue post-graduate degree, at your workplace or while dealing with your clients, in your school/college or while attending parties. Even at your home in front of your relatives, it is your good behaviour which counts the most. But behavioural etiquette is something which cannot be forced on anyone, it has to be cultivated and nurtured within oneself.

Showing compliant behavioural etiquette towards women is very important.

What are the various instances where one can show such etiquette? Let's take a look:

- Before entering the room: You must always knock and ask for permission before entering. This is perhaps the most basic etiquette. You must ensure that the privacy of the woman is unharmed. So, knock and take verbal permission before entering a room
- Avoiding touch contact: You must always ensure that you do not intrude on the customer's personal space. This is not only unprofessional but also unhygienic. So try your best to avoid touch contact. If absolutely necessary, ask for permission and then assist the customer.
- Using Abusive languages or gestures: This is the last thing a women/customer expects from you. Ensure that you never use any foul language in front of the customer. Ensure that you don't abuse your colleagues in front of the guests

Women are empowered by society as well as legally, simply speaking some basic rights that are universal applied to both genders but specifically for women include the following:-

- Rights as a woman for dignity and respect that implies no male of any age has the right to make advances at a woman tease or sexually harass her
- A privilege to respect under all circumstances: No one has the rights to make women uncomfortable, whether at work place, home or on the streets, whether in school, college or in a social gathering
- Rights to physical and mental security: No one has the rights to use physical force, torture physically or mentally, or coerce women in any way, no matter relationship with that person
- Privilege to complain: Women have all the rights to complain when violated even in the smallest way. Take advice and adopt the correct course under such circumstances, whatever is the status of the individual, be it boss, relative or a neighbourhood bully
- Rights as a women employee for security by the organization as per Visakha guidelines for prevention of sexual harassment at the workplace
- Violence, physical or mental against women is not her fate as is made out to be in some cases. Dominant behaviour is not anyone's right and not a women's destiny, thus complaining against the same is in perfect order

A security procedure is a set sequence of necessary activities that performs a specific security task or function. Procedures are normally designed as a series of steps to be followed as a consistent and repetitive approach or cycle to accomplish an end result.

Once implemented, security procedures provide a set of established actions for conducting the security affairs of the organization, which will facilitate training, process auditing, and process improvement. Procedures provide a starting point for implementing the consistency needed to decrease variation in security processes, which increases control of security within the organization.

An employer must ensure that the employees feel safe at all times without being over threatened by the security procedures and related environment.

12.2.3 Comply to PWD Inclusive Policies

How to maintain and provide a conducive work environment that is free from any harassment; facilities and amenities to PWD

The Indian Government respects the equality and therefore no discrimination should be made on the ground of disability. The Constitution secures to the citizens including the disabled, a right of justice, liberty of thought, expression, belief, faith and worship, equality of status and of opportunity and for the promotion of fraternity. No disabled person can be compelled to pay any taxes for the promotion and maintenance of any particular religion or religious group. To enforce the same, the government has passed laws to protect disables and their right to equality. The laws pertaining to disables are as follows:

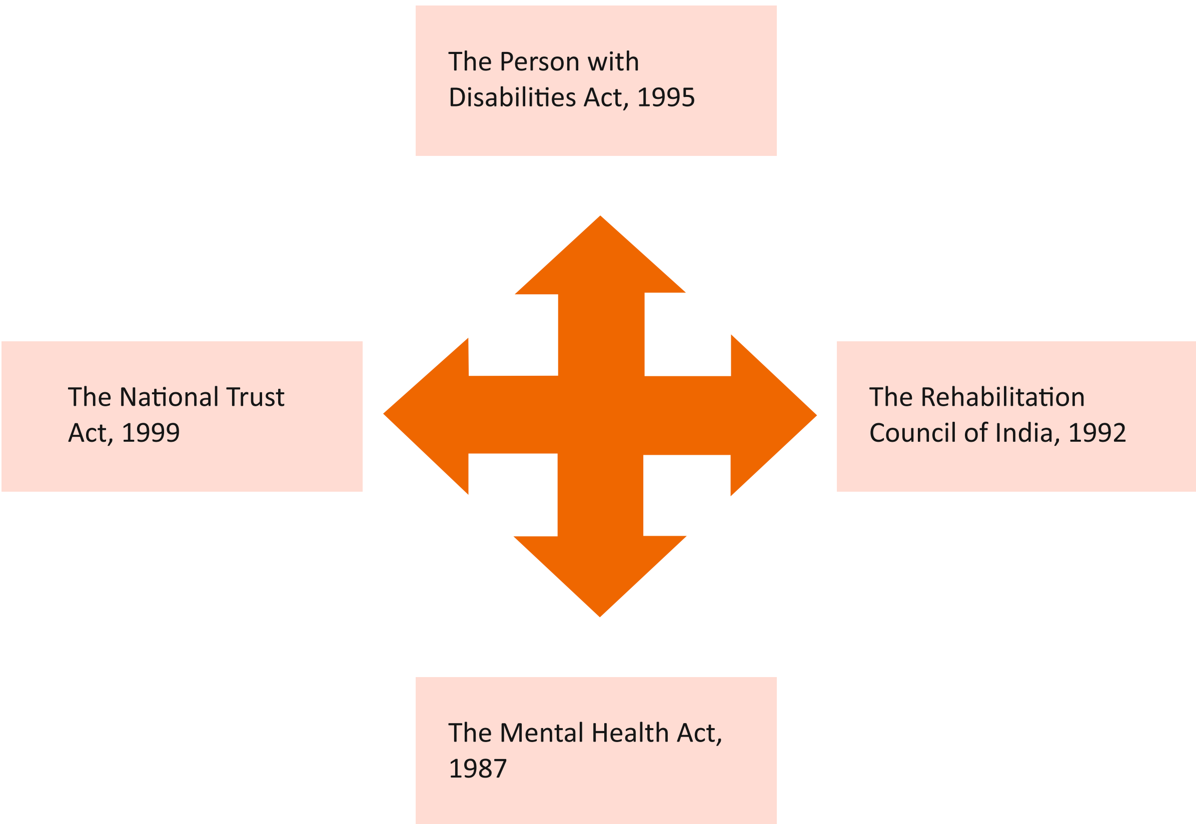

Fig 12.7 Acts related to disabilities

Improve through specifically designed recruitment practices, PWD friendly infrastructure, job roles, etc.

The definition of a 'disabled person' is broadened under the 2016 Act: it covers persons with disability, persons with benchmark disability, and persons with disability having high support needs. This definition is inclusive and categorizes 21 types of disabilities as 'specific disabilities'.

The Act applies to government establishments as well as private establishments. Under the law, private establishments refer to a company, firm, cooperative or other society, associations, trust, agency, institution, organization, union, factory, or such other establishment specified by the government.

The Act requires all establishments to frame and publish an Equal Opportunities Policy. All forms of discrimination against persons with disabilities are prohibited, unless it can be proved that such discrimination is proportionate in nature and a necessary means of achieving legitimate purposes.

The Act provides additional benefits for persons with benchmark disabilities, such as employment vacancies in government establishments, education opportunities, land allocation, and poverty alleviation schemes, among others.

In order to ensure speedy justice, special courts are instituted in each district to deal with cases pertaining to the violation of the rights of disabled persons. Penalties for the violation of rights of disabled persons can extend to a monetary fine of US$7,750 (Rs 500,000) and imprisonment for up to five years.

Use and advocate for appropriate verbal/nonverbal communication, schemes and benefits of PWD

- Although the majority of the compliances under the Act apply exclusively to government establishments, private establishments are also covered under the purview of the Act and must comply with the following requirements:
- Frame and publish an Equal Opportunities Policy on the establishment's website or at a conspicuous place within the establishment premises. The Policy must contain details of the benefits and facilities provided to disabled persons at the workplace. A copy of the Policy must also be registered with the State Commissioner
- Establishments having more than 20 employees must appoint a Liaison Officer to oversee the recruitment of disabled persons and special facilities provided for them
- Establishments are required to identify job vacancies, which would be appropriate for disabled persons. In case of establishments receiving incentives from the government, a minimum of five percent of job vacancies must be compulsorily reserved for disabled persons
- The employer must ensure the prohibition of illegitimate discrimination against disabled persons within the workplace
- The employer must provide additional facilities or special benefits to disabled employees in order to increase their accessibility, such as special leave and training programs
- All establishments have to conform to the accessibility norms issued by the government regarding disabled persons. The accessibility norms pertain to workplace infrastructure and communication technologies, which must be accessible to disabled persons
- Every covered establishment must maintain records of its disabled employees

Summary

- Greenery within and around the office premises and other corporate environments helps not only to enhance the décor of the workplace, but also has a positive impact on the productivity of the employees.
- Plants in workplaces purify the air; they reduce the concentration of CO2 (Carbon dioxide gas) and other volatile organic compounds, keeping the air fresh and healthy.
- External vegetation moderates heat in and around office block in the summertime, pulling down heat stress and decreasing the necessity for air-conditioning.
- Green roofs and facades proliferate insulation or the absorption capacity of heat, plummeting heating and cooling expenses.
- Plants in and around office buildings release water vapour which moistens the air, dipping headaches.
- Hazard is defined as a factor, which may cause harm to people and properties alike, like electricity, inflammable products, explosive material, corrosive chemical, using heavy ladders at workplace etc.
- In order to take adequate precautionary measures against hazards, one needs to identify the hazards commonly found in the workplace.
- The Constitution of India applies uniformly to equality of opportunity for all citizens (including every legal citizen of India, whether they are the disabled) in matters relating to employment or healthy or disabled.
- The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 prescribes a system for investigating and redressing complaints against sexual harassment of women at the workplace.
- The definition of a 'disabled person' is broadened under the 2016 Act: it covers persons with disability, persons with benchmark disability, and persons with disability having high support needs.

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Exercise

Match the followings:

Column A	Column B
The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act	1995
The Person with Disabilities Act	1992
The Mental Health Act	1999
The Rehabilitation Council of India	2013
The National Trust Act	1987

Choose the correct answer from the responses given:

1. Which of the following options is incorrect?
   a. Greenery absorbs heat and keep the office building cool
   b. Greenery is mandatory as per the law enforced by government
   c. Greenery enhances productivity
2. IEA stands for -
   a. Indian Energy Agency
   b. Indian Energy Authority
   c. International Energy Agency
3. Employers who fail to comply will be punished with a fine of up to -
   a. INR 50,000
   b. INR 5,00,000
   c. Yet to determined

Answer the following questions

1. What are the basic steps of risk management?

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2. Write down the key features of organization's redressal mechanism regarding women safety.

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3. What are the common sources of renewable energy?

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4. What could be the possible outcomes of violating PWD policies?

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5. Write down the steps of saving a person from electrocution.

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QR Code

Scan the QR Code to watch the related video

https://youtu.be/-0zQV8F03Og

Unit 12.1: Sustainable Practices

ANNEXURE - QR Codes

Chapter No.	Unit No.	Topic name	Page No.	QR Codes	URL
2. Technical Skills for Document Sharing	Unit 2.1 Skills for Creating Technical Documents	Unit 2.1 Skills for Creating Technical Documents	34		youtu.be/X-kOBPApBMA
3. Skills for Query Management	Unit 3.1 - Customer Query Management	Unit 3.1 - Customer Query Management	51		youtu.be/W8GjZnoN0Ik
8. Manage Your Work to Meet Requirements		Work Ethics to Follow in an Organization	110		youtu.be/g-lq5s-pQgk
9. Work Effectively with Colleagues		Significance of Healthy Team Bonding in Ideal Work Culture	122		youtu.be/ujVbZ2NpDnw
10. Managing Health and Safety	Unit 10.1 Occupational Health and Safety	Evacuation Procedures for Workers and Visitors	149		youtu.be/tUCJ6WxaJcQ
		Health, Safety, and Accident Reporting Procedures and the Importance of These			youtu.be/u6fKBkDlHEE

ANNEXURE - QR Codes

Chapter No.	Unit No.	Topic name	Page No.	QR Codes	URL
11. Workplace Data Management	Unit 11.1 Data Management	Follow the Accurate Process Flow to Analyse Data	156		youtu.be/CPRQvYDYrcA
12. Inclusive and Environmentally Sustainable Workplaces		Sustainable Practices	181		youtu.be/-0zQV8F03Og

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