

# Reference Students' Handbook

Job role – CRM Domestic Voice  
Trade - IT/ ITeS  
Class - 12

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# Unit 1: Fundamentals of ERP

## Learning Outcome1: Describe components of Enterprise Resource Planning

### ERP – Definition:

An Enterprise resource planning system is a fully integrated business management system covering functional areas of an enterprise like Logistics, Production, Finance, Accounting and Human Resources. It organizes and integrates operation processes and information flows to make optimum use of resources such as men, material, money and machine.

Enterprise resource planning promises

- One database,
- One application,
- One user interface

For the entire enterprise where once disparate systems ruled manufacturing, distribution, finance and sales.

### Define Enterprise:

Enterprise is another word for a for-profit business or company, but it is most often associated with entrepreneurial ventures. People who have entrepreneurial success are often referred to as “enterprising.”

There are many forms of legal enterprises, with the most common in the U.S. being:

- Sole proprietorship – A company run by a single individual, typically for their benefit, with unlimited liability for any damages that occur as a result of the business’ operations.
- Partnership – A business run by two or more individuals or entities who share ownership – not necessarily equal ownership, however.
- Corporation – A for-profit entity created to shield the owner(s) from liability should the enterprise become subject to a lawsuit. There are different forms of corporations, depending on how many owners there are.
- Limited Liability Company (LLC) – An LLC offers the legal protection of a corporation and the tax treatment of a partnership.

- Professional Company/Professional Limited Liability Company (PC/PLLC) – PCs and PLLCs are for licensed professional firms, such as accountants, architects, engineers, doctors, and lawyers, and provide liability protection similar to a corporation.

## **Define Planning:**

Planning is the fundamental management function, which involves deciding beforehand, what is to be done, when is it to be done, how it is to be done and who is going to do it. It is an intellectual process which lays down organisation's objectives and develops various courses of action, by which the organisation can achieve those objectives. It chalks out exactly, how to attain a specific goal.

Planning is nothing but thinking before the action takes place. It helps us to take a peep into the future and decide in advance the way to deal with the situations, which we are going to encounter in future. It involves logical thinking and rational decision making.

## **Challenges of enterprise systems:**

### 1. The Selection Problem

Say a company has decided for many reasons to launch a managerial information system implementation project. The very first question that managers will face is what type, size, and scope of system they actually require and how to choose the most suitable solution among the hundreds of enterprise software options available on the market.

There is no single answer on how to find what you need, and there are multiple factors to consider on top of size, scope, and type, including price and specific functionality requirements (there are often hundreds to thousands of features and functions for each software system that each need to be considered in terms of priority and utility). Many companies may consider themselves immune to this challenge as they have already decided what they need and want in a new system. Be careful about coming to this conclusion without proper background work though, as selecting a new software system, especially one as all-encompassing for a company as an ERP system, is one of the most complex and important decisions your company will ever make. ERP selection should be considered as seriously as possible for the reason that ERP system choice predefines a company's strategy for at least the following 6 to 10 years and, no doubt has a huge impact on the future success of the entire business.

## 2. Technical Issues

How to successfully select a software package is important but not the last problem that will appear on the thorny path toward getting the whole system (software and hardware, server, and users) working together and bringing any value back to the company. Another set of implementation issues is related to the technical part of the project.

More than likely servers and workstations will need to be revised to accommodate the new system, and new and more modern ones may need to be ordered, purchased, and replaced. The internal network also has to be analyzed and modernized if required, and the speed and bandwidth of the existing Internet access should be taken into consideration along with possible technical concerns about the mobile devices being used.

If these needs are underestimated, they can dramatically impact the overall results of the project (and easily delay the “happy hour” once the new system is finally in place and working as planned), or poison the first few weeks (or even months) of using a new system with slow performance, resulting in a slackening of the existing pace of business. However, changes during the last few years in delivery models have caused a shift in how ERP and other types of organizational software are made available to users. Plenty of “as a service” and in the cloud options have become available, offering hosted infrastructure, data storage and software services, which now allow the cost and headache of applications, hardware, network, and storage problems to be minimized. These include software as a service (SaaS), platform as a service (PaaS), and infrastructure as a service (IaaS).

With an on-premise environment, everything is hosted on-site—data, applications, servers, network, and software solutions. With “as a service” hosting or cloud option, data, middleware, networks, hardware, and applications can be hosted on or offsite depending on the service model chosen.

For example, SaaS enables companies to run a software application hosted offsite, generally through a network interface like a Web browser, but they have the choice of whether they want their data associated to the offsite software application or not. In short, cloud or hosted delivery models can make the implementation much easier and less costly than with an on-premise solution, but there are caveats with going with an “as a service” option (data security and software customization, for example) and these need to be explored fully before a decision is made as to which delivery model to go with.

### 3. Data Quality Issues

This issue is particularly symptomatic of companies that are implementing ERP for the first time and transferring their legacy data into the new system from Excel spreadsheets, manual records, or old disparate applications. Basically, the issue is that old data that have been used and stored for years can for many reasons appear approximate or even incorrect in the new ERP reality. In fact, according to our research, replacing a legacy system and consolidating disparate solutions are the top two common challenges companies face.

### 4. Business Philosophy Changes

ERP implementation brings significant changes to a company's conventional business model and the day-to-day practices it has been using for years or even decades. Take these examples of likely changes to business processes with a new ERP:

- some employees' level of responsibility is dramatically increased, as with the new system it is more difficult (sometimes impossible) to fix erroneous data or typing errors;
- new approaches to data reporting and mining and, thus, new managerial principles and practices have to be established; and
- Business models and business processes might require massive changes because of new real-time opportunities and data availability.

These are only a few examples of how serious and meaningful business transformation can be, post-implementation.

### 5. "Mindshift" Issues

This is the most difficult type of issue to resolve. It's easy to forget that the success of the implementation of a software system depends mainly upon the users. The system itself is a non-living and logical entity that follows logical steps and processes as it has been programmed to, but the users of the system are humans who were used to processes with software being one way and will more than likely find it hard to switch to a new way of doing things, especially if the benefit of the new methods is not immediately obvious or forthcoming.

## **Uses of enterprise resource planning:**

Enterprise resource planning (ERP) systems are used by organizations looking to manage their business functions within a centralized and integrated system. ERP is commonly used by companies working within the supply chain to help keep track of all the moving

parts of manufacturing and distribution. However, ERP can be utilized by a number of different industries including those in healthcare, nonprofit groups, construction and hospitality. Organizations needing to manage their staff, customers and inventory can all rely on ERP benefits.

### 1. More Money Saved

Although many vendors have introduced flexible pricing in recent years, ERP packages are still a big investment. For many, the large costs alone can make it seem unlikely that the program would end up saving your organization any money at all. But once you get past the sticker shock, it's easier to see how ERP systems can provide an excellent ROI.

First, ERP unifies many of the systems that may currently be fragmented in your organization. From product development to accounts payable, your staff will be able to access all the necessary tools for their job from one centralized system.

By unifying systems, you help your staff utilize their time more efficiently. With ERP, users don't have to hunt down a piece of information across multiple systems. With the central database, information is much easier to retrieve. Moreover, your organization saves money with ERP by eliminating the need for users to be trained on several systems. This not only reduces the amount of money spent on training but also reduces the logistical effort involved. Instead of scheduling several training sessions with several different vendors, you only need to communicate with one.

### 2. Improved Collaboration

The features of ERP applications can vary slightly depending on the program you are using, but generally, all systems improve collaboration in some way. As mentioned before, the centralized database is an integral part of what makes an ERP unique. With this database, you provide your company with a single source of truth to work from. This reduces any errors brought on by working with the incorrect data, further reducing costs.

Moreover, a central database reduces any hesitation or stalling during projects, since all team members have access to the company-wide data they need. Additionally, there's no need to merge information across various systems or sources. Because all of the data is compiled, stored, shared and accessed through a single system, there is no concern about how accurate, complete or secure the data files are.

This isn't as easy to say if perhaps your team is entering the same client information over and over again into several different systems. Without an ERP, you invite human error into your processes when it could easily be avoided.

### 3. Better Analytics

A central database of information also aids in improving your analytics and reporting. Since an ERP records and stores all the data users input, it makes for an excellent business intelligence tool. As long as your vendor provides strong functionality, ERP software makes it easier and faster for your team to generate various reports. Reports that could take days of research and compilation without an ERP takes just minutes.

Most ERP systems provide a customizable dashboard so executives can see reports when they first log into the system. These reports may include everything from income and expense statements to custom KPIs that offer insight into certain functions. The ability to have access to these reports quickly enables you and your team to make better decisions more quickly. You no longer need to rely on your IT staff to generate the reports that you need. Lastly, reports typically come with access levels, ensuring only relevant staff see valuable company data.

### 4. Improved Productivity

With traditional methods, tedious tasks are completely unavoidable. Tasks like generating reports, monitoring inventory levels, timesheet tracking and processing orders have historically taken employees hours to accomplish. In addition to taking up time, these processes lower employee morale and open yourself up to human error. After the umpteenth hour of entering the same line of data into different forms, even the best staff members are bound to make a mistake.

If you choose the right solution, an ERP system can automate your most tedious tasks. The database within ERP software eliminates redundant tasks such as data entry and allows the system to perform advanced calculations within minutes. This frees up your team members' time to do more thoughtful work, increasing your ROI when it comes to labor. From this, ERP increases your organization's productivity, efficiency and profitability.

### 5. Happier Customers

Managing your customers has never been so important. In our digital age, more and more people are turning to the internet to receive advice on what clothes to wear, what food to eat and how to live their lives. And with 84 percent of consumers trusting online reviews as much as they would a friend, previous customer opinions are more impactful than ever.

The best way to improve customer satisfaction is to provide client-centered goods and services. ERP provides this in a few different ways. First, most ERP systems are equipped



with a customer relationship management (CRM) tool or can be easily integrated with one. With an ERP, your CRM has access to data across business functions.

Along with contact information, an integrated CRM can show you details such as order history and billing information. This enables your team to see your clients more holistically to gain a better understanding of their wants and needs. The increased customer visibility helps you formulate your sales strategy for improved lead generation.

## 6. Simplified Compliance and Risk Management

As companies grow and do business in different countries, it can be difficult to keep track of all the different regulations imposed on your business. Even local companies need to worry about various environmental, information security and human resources regulations.

Luckily, many ERP systems are built with these regulations in mind to help you maintain compliance at every stage. Moreover, ERP software provides built-in auditing tools to assist with documenting things like chemical use and tax provisions. This makes it incredibly easy to formulate reports and send them over to the relevant governing body.

Additionally, ERP systems often provide tools to manage risk. This solution's enhanced reliability and accuracy improve overall financial management since there's less chance for errors during accounting. Forecasting tools also allow users to predict events when it comes to demand, labor and budget. With this information in hand, you can create more secure budgets, schedules and product development plans.

## 7. Improved Inventory Monitoring

A major challenge for growing companies is tracking and monitoring their expanding inventory levels. ERP systems utilize barcoding, RFID tags and serial numbers to keep tabs on your inventory at every stage during the supply chain. These tools help you keep track of inventory levels at different warehouses, which items are in transportation and which items are on the shelves ready for consumers. The increased warehouse visibility optimizes the pick, pack and ship process greatly, removing all the guesswork.

Inventory monitoring also bolsters reporting, as tracking technologies provide more accurate numbers. Users can configure custom KPIs to see which products move the fastest — showing greater demand — and which increase carrying costs. With the greater precision provided by ERP, warehouse managers can get real-time data on their inventory to make more accurate business decisions.

## 8. Improved Production Planning and Resource Management

Along with managing your inventory, ERP systems also manage manufacturing. ERP provides insight into all manufacturing operations including the shop floor. This enables users to optimize production schedules, equipment and labor to maximize capacity.

Additionally, ERP manages your Bill of Materials (BOM) and fixed assets. With this software, users can easily create and edit BOMs along with keep track of all previous changes. Fixed asset management allows users to schedule equipment maintenance to reduce unexpected downtime, improving your profitability and supply chain relationships.

### **Understanding the factors affecting ERP:**

#### 1. Top Management:

- i. Realistic time line of ERP Projects
- ii. Timing for Implementations
- iii. Sustained Top management involvement & support
- iv. Empowered Project manager for decision making
- v. Involvement of Business process owners with key role and responsibilities to feel ownership
- vi. Appropriate end user identification with key role and responsibilities
- vii. Adequate ERP implementation strategy & clarity of vision
- viii. Interdepartmental cooperation and support
- ix. Strong Project funding
- x. Better technology infrastructure with high speed internet
- xi. Dedicated & balanced team of skilled resources for ERP implementation
- xii. Timely decisions by leadership
- xiii. ERP Readiness
- xiv. Trust building and job surety to end users
- xv. Influential champion and change agent
- xvi. Rewards & Punishments linked with performance
- xvii. Concern resource availability at multisite
- xviii. Top Management aligned business strategy with IT strategy
- xix. Great ERP software selected aligned with the business needs

#### 2. Project Management:

- i. Good project Scope management/Clearly defined and controlled scope and changes in the scope of project assessed based on the additional time and cost it would entail

- ii. Motivation & Team work
- iii. Risk management
- iv. ERP project Team composition & Competence(cross functional, mix of consultant & internal staff)
- v. Module integration management
- vi. Good & Formalized project plan
- vii. Project Management with realistic milestone & end-dates
- viii. Task prioritization
- ix. Project manager monitoring & control with daily-log meetings/Follow up
- x. PM maintain moral & momentum of team
- xi. Relationship & psychology management by project manager
- xii. Good performance measurement & Quality management system
- xiii. Data collection & migration Strategy for accurate data
- xiv. Quick win approach to keep people on board
- xv. Time management & budget management/Realistic budget

### 3. Change Management:

- i. Engage business process owners in project Technically and Psychologically
- ii. Change management
- iii. Top management enforcement to use new system
- iv. Actual Users involvement & participation
- v. Strong Interdepartmental communication/Strong communication Inward & Outward
- vi. Awareness & marketing of product
- vii. Knowledge sharing culture
- viii. Remove Fears with regards to using the system
- ix. Remove Fears with regards loss of job & authorities

### 4. Business Process Reengineering:

- i. Adequate legacy system knowledge
- ii. Clarity in key system requirement & design/specification
- iii. Minimal Customization
- iv. Involvement of domain expert having business & technical knowledge in Business requirement & system design
- v. Meaningful Business Process Reengineering aligning the business processes with s/w
- vi. Effective user acceptance testing by domain expert
- vii. Resolve module integration issues

5. Training and Education:

- i. Formal and effective education & training program to users about new business processes, expectations and the new ERP software?
- ii. Right identification of Master trainer & trainees
- iii. End user awareness & trust building
- iv. No restructuring & Transfer-posting of trained resources/no replacement

6. Vendor Management:

- i. Consultant & Vendor Support
- ii. Partnership with vendor
- iii. Adequate S/W configuration, development & Testing & change management
- iv. Project manager Conflict management
- v. Appropriate usage of vendor/consultant
- vi. Seasoned Consultant having skill in functional, technical & interpersonal

**Advantages of ERP:**

1. Competitive Advantage- It's true that ERP software requires a major investment, but there's also an even bigger cost in not making the investment. While some manufacturers choose to stick to the tried and true methods of the past, others seek technology solutions. Manufacturers cannot afford to put off an ERP implementation while their competition invests in ERP and starts reaping the many benefits we'll touch on below.
2. Improved Process Efficiency- an ERP solution eliminates repetitive processes and greatly reduces the need to manually enter information. The system will also streamline business processes and make it easier and more efficient for companies to collect data, no matter what department they're working in.
3. Accurate Forecasting- Enterprise resource planning software gives your users, and especially managers, the tools they need to create more accurate forecasts. Since the information within ERP is as accurate as possible, businesses can make realistic estimates and more effective forecasts.
4. Department Collaboration- Nobody wants to run a siloed business with each department functioning separate from the other. Collaboration between departments is a crucial and often necessary part of the business. With the data entered into ERP systems being centralized and consistent, there's no reason why departments can't work together. The software also touches on almost every aspect of a business, thus naturally encouraging collaborative, interdepartmental efforts.
5. Scalable Resource- Did you know? Structured ERP systems allow the addition of new users and functions to grow the initially implemented solution over time.

When your business is ready to grow or needs more resources, enterprise resource planning software should be able to facilitate that growth.

6. Integrated Information- No more issues with data spread across separate databases; all information will be housed in a single location. This means you can integrate platforms like your CRM software with the ERP system, keeping data consistent, accurate, and unique. Know your customer, their orders, and your inventory, all in one place.
7. Cost Savings- With one source of accurate, real-time information, ERP software reduces administrative and operations costs. It allows manufacturers to proactively manage operations, prevents disruptions and delays, breaks up information logjams and helps users make decisions more quickly. If you've chosen the right solution for your business, and the right vendor who meets your needs, you're bound to see a powerful ROI.
8. Streamlined Processes- As manufacturers grow, their operations become more and more complex. Manufacturing software automates business operations cross-departmentally, providing accurate, real-time information to everyone utilizing the solution. ERP increases efficiency and productivity by helping users navigate complex processes, preventing data re-entry, and improving functions such as production, order completion and delivery. Streamlined and efficient processes throughout.
9. Mobility- An advantage of ERP solutions like Workwise ERP software is having access to a centralized database from anywhere you work. Home, office, wherever, through our mobile-friendly solution and application.
10. Customized Reporting- ERP software helps make reporting easier and more customizable. With improved reporting capabilities, your company can respond to complex data requests more easily. Users can also run their own reports without relying on help from IT, saving your users time to use toward other projects.
11. Increased Productivity- Save time and increase productivity levels. Sound too good to be true? It's not with ERP software. By having redundant processes automated, users have more time to work on other pressing projects and tasks. They'll also be able to work easier since the solution was designed for ease-of-use.
12. Regulatory Compliance- A benefit of ERP software which sometimes goes unnoticed is how it ties well into regulatory compliance in the manufacturing industry. Powerful ERP solutions will keep track of regulations within the industry and monitor changes in compliance.
13. Flexible Systems- Modern ERP software systems are robust, flexible, and configurable. They are not a one-size-fits-all proposition but can be tailored to

the unique needs of a business. ERP systems also can adapt to the ever-changing needs of a growing business, ensuring you won't have to buy a new solution once your needs change or your business grows.

14. Customer Service- It's easier to provide high-quality customer service using an enterprise solution, especially when you're using one as well-equipped as Workwise ERP. Sales and customer service people can interact with customers better and improve relationships with them through faster, more accurate access to customers' information and history. You'll also have access to marketing automation and contact center software, ensuring your customers are being interacted with consistently.
15. Data Reliability- ERP provides reliable data that can be accessed from different locations (if implemented in the cloud) and through multiple devices including tablets and smartphones. With the ability to update in real time, ERP improves data accuracy and consistency. ERP user data can also have additional security through firewalls and built-in protection resources.

### **ERP vendors:**

- Microsoft Dynamics: The Microsoft Dynamics ERP suite includes Microsoft Dynamics AX, an accounting and finance, HR and CRM tool; Microsoft Dynamics GP, a mid-market accounting suite; and Microsoft Dynamics NAV and Microsoft Dynamics SL, both SME ERP platform.
- Oracle e-Business Suite: A modular ERP platform, the Oracle e-Business Suite has many elements including Oracle CRM, Oracle Financials, Oracle Logistics, Oracle Order Management and Oracle Warehouse Management Systems. The software makes use of the Oracle database.
- SAGE: Sage Line 500 and Sage 1000 are the cornerstone ERP solutions for thousands of UK businesses. Developed for the UK mid-market from day one, the Sage Line 500 and Sage 1000 Suites offer customers a broad range of capabilities including CRM, HR, Payroll and Business Intelligence.
- SAP Business One: Aimed at SMEs, SAP Business One contains over a dozen core modules, such as Financials, Sales Opportunities, Purchasing Banking, Human Resources, E-commerce and WebCRM.
- Infor Global Solutions: Infor is a large business software provider which has several ERP suites, such as Infor ERP LN, Infor ERP Syteline, Infor ERP VISUAL, Infor ERP Adage and Infor ERP LX. They are built on an open, flexible, service-oriented architecture (SOA) with web-based user interfaces.
- NetERP from NetSuite: NetSuite supplies on-demand, integrated business management software suites aimed at mid-market enterprises and divisions of

large companies. It offers hosted accounting, CRM, ERP, e-commerce and web site development software.

- Lawson Software: Lawson merged with business software firm Intenia International in 2006, to offer mid-market business an alternative to larger ERP vendors. The vendor's ERP packages are Lawson S3 (broadly for service firms) and Lawson M3 (broadly for manufacturers and distributors).

## **Learning outcome 2: Understanding basics of management**

### **Define time management concept and importance of time management:**

- Time Management: "Time management" refers to the way that you organize and plan how long you spend on specific activities. It may seem counter-intuitive to dedicate precious time to learning about time management, instead of using it to get on with your work, but the benefits are enormous:
  - Greater productivity and efficiency.
  - A better professional reputation.
  - Less stress.
  - Increased opportunities for advancement.
  - Greater opportunities to achieve important life and career goals.
  - Failing to manage your time effectively can have some very undesirable consequences:
    - Missed deadlines.
    - Inefficient work flow.
    - Poor work quality.
    - A poor professional reputation and a stalled career.
    - Higher stress levels.

Spending a little time learning about time-management techniques will have huge benefits now – and throughout your career.

### **Understanding to the improve time management skills:**

There are many ways to improve your time management skills. Plenty of resources and techniques are available to aid you in this endeavor.

- Make a Schedule – and Stick to It

Start improving your time management skills by organizing your days and weeks in advance. There will always be surprises, but it's likely that you have an idea about the kinds of tasks and responsibilities you have to deal with every day.

- Prioritize

The second lesson in time management is learning how to prioritize. To efficiently execute any project, you need to decide which stages or components of the project are most important to your business and the impact of each stage/component in the short, medium, and long terms.

- Set Some Boundaries

If you want that your team and family to let you work in peace, you need to inform them when you aren't available. People can't read your mind, so it's up to you to set boundaries when necessary. You don't want to sound rude, so be sure to communicate your limits in a polite – but direct – manner.

- Account for Good Distractions

No matter how hard you try, you will get distracted here and there. That's a fact of life. Furthermore, no one can work for hours on end. We all need breaks to help us stay productive. The best thing to do is to accept that distractions will happen and try to incorporate them into your schedule.

- Stay Away From the Bad Distractions

If there is a good side to distractions, there is also a bad side. If a distraction takes up too much of your time, you will find yourself greatly behind on work. So, get to know which distractions tend to drain too much of your time – and then make every effort to avoid these distractions.

- Get Some Tech Help

There are many time management apps available for both Android and iOS devices. These can help you boost your productivity and ensure that you are doing what has to be done.

For example, if you want to know where all your time is going, you should try something like Rescue Time or Toggl. If your goal is to keep your calendar in order, download Cal or aCalendar. If you need some help keeping distractions away, give Focus Booster a shot. If your to-do list is in disarray, then Trello may be perfect for you.



- Never Procrastinate

If it can be done today, do it today. This golden rule should be your motto if you want to make the most of your time.

Take it a step further: If something in your schedule changes, and you find yourself with extra time before the end of the day, start on the next day's tasks without thinking twice. It's much better to finish your week earlier on Friday than it is to get stuck working on a last-minute project.

## **Define time management in IT:**

We all have twenty-four hours in a day, but when you are a teacher, sometimes it feels like these hours have significantly less than sixty minutes in them. Teachers have so much on their plate. Time management skills are crucial to getting everything done. Teachers can leverage technology to improve their time management.

- Identify the Problem Areas

The first thing to do is to take responsibility for how you spend your time. Taking a good hard look at how we spend our day can give us insights on where time is being wasted. Spending a week or two journaling how time is spent can be a very useful activity for teachers. This could be accomplished by keeping a simple paper journal or by keeping track of your time using a spreadsheet or even an app. Teachers should find a way to journal that is the least obtrusive.

Our mobile devices can save us time throughout our day. These devices can also cause us to waste valuable minutes. These minutes can add up to significant segments of time if we are not careful. Luckily, there are also apps that we can install on these devices to monitor the usage of these devices. This might sound like a scary proposition at first, but we cannot work on solutions until we admit we have a problem. For those of us, that needs a little extra help in this area.

We can even set up alerts to tell us when we have used up our allotted time for a certain app. Once again maybe just spend a week or two on this activity to identify the time wasters in your day. Then work to eliminate or reduce them.

- Use Technology to Plan Your Day

Careful planning of your day is also another great time management activity. How many times have we gotten to the end of the day and wondered where the

time went? Taking time to plan how you will spend your hours in a day helps to keep them from slipping away. Technology can help us in this area. Online calendars help with scheduling events and reminding us, so we do not miss them. You can even sync these calendars to your mobile device.

Many online calendars are built right into the email applications we are already using. You might just need to take a little time to learn about the features of your program and how to use those best to work for you. Once again calendars and scheduling need to be easy to use and as unobtrusive as possible. If they are not, you will not use them because they cost you more time than they save.

Online calendars can be an especially helpful time management tool for teams. Knowing the times when your team members have important events scheduled, can help us to avoid unnecessary interruptions. It can also help with planning meetings and other group activities.

To make the most of any scheduling application, especially when you hope to use it in a group, proper training is key. Take the time to educate group members on how to use the technology. Set up basic rules on how the group will utilize the technology so everyone will understand its importance.

Ownership of your time is an important first step in a time management plan. Then it is just a matter of finding the right tools to help you make the most of your twenty-four hours in each day. Don't be afraid to try out new technologies to find the tool that works best for you.

## Unit 2: Basics of procurement Policy and BPO's

### Learning outcome1: Introduction to procurement policies and guidelines

#### Introduction to Procurement Policy

A business procurement policy provides guidelines for purchasing professionals, departmental managers and employees in a small business. A procurement policy helps to ensure that your business can buy efficiently and obtain value for money from its suppliers. Efficient purchasing can save money and make an important contribution to profitability.

- 1. Specifications and needs: define the business need:** You need to understand what the fundamental business requirement is. At this point, it is important to understand the difference between a requirement and a solution. For example, the business requirement is to source some software to help to get information published on the company intranet. An item of software to publish information on the company intranet is a solution – not a requirement. The requirement is to be able to publish information on the intranet. It may be that an outsourced solution is a better option.
- 2. Develop the procurement strategy:** Depending on the scale of your project, there could be a very wide range of potential solutions and approaches to your business need and a number of ways of researching the market and selecting a supplier.
- 3. Supplier selection and evaluation:** After researching the market and establishing your procurement approach, you need to evaluate the solutions available. This may involve a formal tender process or an on-line auction.
- 4. Negotiation and contract award:** Even when you have selected a supplier it is important that detailed negotiations are undertaken. This is not just about price. Think in terms of Total Cost of Ownership.
- 5. Getting results: induction and integration:** No goods or services should be ordered or delivered until the contract is signed, but this is not the end. It is vital that the supplier is properly launched integrated. The P2P process needs to be in place and need to be understood on both the buy-side and the supplier side.

#### What is my benefit?

You have several benefits of a good designed procurement process:

- Saves you time; ensure that you get the right solution to meet your business needs;
- Ensures you that you pay the right price (whole life cost footprint)
- Avoids you that you overlook vital steps that may come back to haunt you later;
- Your supplier is familiarized with your approach;
- Transparent bookkeeping and avoids fraud.

## Limitations:-

1. **Over reliance on technology and the disabling of due diligence.** This often leads to devastating shortages, delays, and supply chain disruptions.
2. **Lack of buy in and resistance to change from employees.** This often leads to circumvention of **eProcurement Systems**, loss of process control, back door buying, and theft.
3. **Increased Complexity.** Often eProcurement Solutions add complexity and cost, usually because due diligence is taken to understand user requirements.
4. **Poor Integration with existing systems.** This is a big one, and a popular reason for circumvention
5. **Cost Effective Systems-**Very often, if the above factors are present in a procurement environment, the result will be a staggering loss of money and competitive advantage.

### Purpose and Scope-

The purpose of the ISO Procurement Policy and Procedures (Procurement Policy) is to structure ISO's purchasing processes and sourcing strategies to ensure that the services and goods we acquire are the result of transparent, objective, time and cost-effective decision making and risk management. This Policy is rooted in ISO's and ISO Members' commitment to continuous and performance-driven improvement and bench-marking.

This Procurement Policy applies to all ISO staff, managers, directors, and officers as well as any agent(s) for ISO seeking to acquire, acquiring and/or managing ongoing contractual relationships for the provision of services and/or goods to or on behalf of ISO. It is not a box-ticking exercise, but rather implies careful consideration at all stages of the procurement process, including before and after. Adhering to this Policy is mandatory; violations may result in disciplinary action.

This Policy may be shared with potential suppliers, donors, and external partners, and incorporated into any resulting contractual relationship.

### **ISO (International Standards Organization)**

ISO is a set of various standards that assures the quality management system of the organization based on the process model.

- Set of standards
- Customer satisfaction on products
- Ensure the quality of the product
- Fulfill the tender eligibility

- Increase the business in private and public sector
- Operational efficiency in an organization

#### Definitions-

The below are definitions of terms used throughout this Policy. When in doubt, speak to your manager, the Procurement Manager, Financial Services or Legal Services.

- ✓ Bid, proposal or tender: is the offer from a possible vendor or consultant responding to an invitation from ISO(international standards organization) for that offer.
- ✓ Procurement Manager: is the ISO staff person(s) dedicated to handling ISO procurement issues, developing templates, and answering any questions relative to this Policy.
- ✓ Procurement Process: is the acquisition process (purchasing) of goods and/or services. ISO's procurement process is meant to ensure that ISO's needs are met for the best possible cost in terms of quality, time, and other relevant factors to support ISO's business operations.
- ✓ Request for Proposal (RFP) or Request for Interest (RFI): is an invitation from ISO defining a need, outlining certain project perimeters and criteria by which ISO will select a winning bid (in this case, a proposal that discretely sets out what service and good will provided, for how much, when and how, etc.)

#### Overview of Procurement Process and Confidentiality-

This Procurement Policy applies to all acquisitions of goods/services at ISO. All purchases (and perhaps even most) will not need to go through a formal tender process, but will remain subject to this Procurement Policy.

Adhering to this Policy will be the responsibility of the relevant business unit seeking to acquire the goods/services, and as required or requested, in consultation with the Procurement Manager or Financial Services.

While this Policy may be shared with potential bidders and donors, several aspects of the procurement process are confidential. Offers or tenders received from applicants are strictly confidential to ISO and should not be shared with potential or actual applicants in order to ensure fair and unbiased competition. The results of any offer or tender may be shared directly with the applicant only, including a summary as to why it was not selected.

Record-keeping will be of utmost importance for accounting and auditing reasons.

### Delegation of Authority

According to Clause 23 of the ISO Rules of Procedure (“Delegation of Authority”) and any further “ISO/CS internal procedures” as referred to in the Delegation of Authority set out how authority to engage ISO financially is delegated from ISO’s Secretary General to staff. All ISO staff should be familiar with the Delegation of Authority and ISO/CS internal procedures, including on avoidance of oral agreements or commitments.

### Procurement Policy

Procurement Policy must be read in conjunction with the Delegation of Authority and ISO/CS internal procedures, which take precedence. Importantly, all engagements (except as explained in Delegation of Authority and ISO/CS internal procedures, e.g., for “click-through” agreements) must be approved by two signatories. When in doubt, speak to your manager or a member of Legal Services. As such, all normal budget constraints and approval processes shall also apply to any procurement process.

### Ethics and Sustainability

All purchasing of goods or engagement of services at ISO must comply not only with Swiss law, as ISO is headquartered in and subject to the laws of Switzerland, but also meet or exceed the guidelines from UN, WTO and OECD as well as those related to the transparency of project management and administration of projects and contracts with development agencies. Foundational and implementation references include:

- ✓ NF X50-135 – 1:2012: Purchasing function – Sustainable purchasing - Guide for the use of ISO 26000 - Part 1: Policy-Strategy
- ✓ NF X50-135 – 2:2012: Purchasing function – Sustainable purchasing - Guide for the use of ISO 26000 - Part 2: Operational deployment
- ✓ BS 8903:2010 Principles and framework for procuring sustainably – Guide, as well as,
- ✓ ISO 20400:2017 Sustainable procurement — Guidance and ISO 26000:2010 Social responsibility.

Such laws and guidelines include human rights, environmental, employment, health and safety, ant avoidance and anti-corruption regulations. It should be noted that ISO is not subject to VAT taxes, as prescribed in its Fiscal Accord with Switzerland.

Further to the applicable ISO staff rules and the Code of Conduct and Ethics, this Procurement Policy also commits all staff to upholding ethical conduct, social

responsibility, transparency, auditability and accountability, and sound risk-management in the context of procurement. Deviations from this should be reported to the relevant line manager, Procurement Manager, Legal Services, and/or Financial Services.

When selecting possible vendors or consultants, ISO shall strive to seek partners of the same or similar mindset and corresponding business operations.<sup>21</sup>

As said above, this Procurement Policy is meant to encourage open and wide competition for the best quality/priced goods and services. As such, ISO procurement processes must always comply with the following;<sup>21</sup>

- ✓ Procurement processes should be fair, unbiased, consistent, and aim to attract the widest and diverse pool of applicants as possible and appropriate.
- ✓ Compliance with applicable laws and regulations is strictly required.
- ✓ ISO procurement should be consistent with socially responsible, diversity and ethical business operations and practices.
- ✓ Engagements made on ISO's behalf must follow the delegation of authority as described in Delegation of Authority and ISO/CS internal procedures.
- ✓ The procurement process shall be the responsibility of the relevant business unit, with systematic assistance from the Procurement Manager as required or requested, in order to ensure that another person can review and ensure the process is being followed.
- ✓ Selection should be based on transparent and objective criteria, free from personal interests, biases, or other untoward or political influences.
- ✓ All records should be as complete and accurate as possible, and timely kept.
- ✓ Any contract review shall be in accordance with the Legal Services' normal quality management practices.

#### Procurement Process (Expenditure Limits)

All acquisition of goods/services for ISO shall comply with the following processes, according to the below-described expenditure limits. The Procurement Manager may nevertheless assist if there are any concerns regardless of the exact monetary limit, especially if there may be a significant impact on ISO.

- ✓ Up to CHF 10 000. Any expenditure by ISO for goods/services up to CHF 10 000 shall comply with all the principles set forth in this Procurement Policy. No formal call for tenders is required, unless other factors<sup>1</sup> imply a significant impact on ISO.
- ✓ Between CHF 10 000 and CHF 50 000. Any expenditure by ISO for goods/services between CHF 10 000 and CHF 50 000 shall require that the relevant business unit

request and obtain at least 3 (three) offers from possible vendors or consultants. Although this does not require an RFP/RFI or other formal tender process (except as described in Section 6.1 above, e.g., where an engagement would affect ISO's reputation and integrity, and/or have a political or strategic impact, and/or imply an endorsement by ISO), proper documentation and adherence to all the principles of procurement herein apply.

- ✓ Over CHF 50 000. Any expenditure by ISO for goods/services for over CHF 50 000 should be accompanied by a formal call for tenders (e.g., RFP) and done in consultation with the Procurement Manager. It is up to the business unit to determine whether the project management of the procurement process will be done by the Procurement Manager or the business unit. Nevertheless, the Procurement Manager should be consulted on the RFP document itself, the selection process or weighting of criteria and at the close of any contractual undertaking. Regular feedback to relevant LT member and/or Procurement Manager/Financial Services, as appropriate, would be expected in cases with a significant impact on ISO.
- ✓ Risk Management. Regardless of the exact expenditure, all purchasing shall include an appropriate and proportionate risk management analysis. Any purchase or engagement for services with external parties inherently exposes ISO (and possibly its Members) to a variety of risks. It shall be the responsibility of the relevant business unit seeking to acquire the goods and/or services to undergo and document its risk management analysis, including the identification and mitigation.
- ✓ Artificial Limit Compliance. These above expenditure limits are meant to ensure the proper use of procurement processes to obtain the best and most cost-effective service/good to meet ISO's need. Artificial splitting of contracts or projects in order to avoid the implications of another procurement process category is strictly prohibited. When in doubt, business units must consult their relevant LT member, and/or Procurement Manager/ Financial Services.
- ✓ Auditability and Accountability. For any ISO purchase, good record-keeping is important, including as may be required by law and by internal ISO Procedures. This includes keeping an original copy of all invoices for goods and services for 10 years (in paper or electronic form, if supported), from the end of the year in which the expense was incurred.



- ✓ Business units should at a minimum also maintain a copy of (1) how and from whom the need for the acquisition originated, (2) the approval or project management process by which the purchase was authorized, (3) all records pertaining to the source of the service or good, (4) the performance of the vendor or consultant, and (5) any remedial measures taken where performance or compliance so required it.

Continuous Improvement. ISO staff or agents engaged in procurement for ISO shall strive to continually seek relevant training and perform self or team assessments to support ethical and sustainable procurement processes at ISO, and in accordance with normal ISO business operations. As ISO and its Members are committed to ISO's continuous improvement, all vendors and consultants with whom ISO does business are expected to be likewise demonstrably committed to the continuous improvement of its goods/services, including identifying and setting performance targets within the context of their relationship with ISO.

- ✓ Suppliers, Vendors or Consultants: ISO only partners with suppliers, vendors or consultant that attest they respect and comply with all applicable health, safety, environmental, employment and fiscal regulations. Any known violations or inability to provide the appropriate evidence shall disqualify any supplier, vendor or consultant from the procurement process. The relevant business unit seeking or managing the acquisition will also manage the vendor or consultant relationship. For contracts of particular impact on ISO, feedback should be given to the relevant LT member and Procurement Manager/Financial Services. Any conflicts of interests that may arise in the context of a possible or ongoing vendor/consultant relationship should be immediately raised with the relevant manager of the business unit, who may escalate its resolution, in accordance with internal ISO Staff Rules Edition 2016.
- ✓ Call for Tenders (RFP, Criteria): A call for tenders is an essential part of any formal procurement plan. Due consideration must be given to the manner in which the call is released, how to effectively describe the service/good ISO is requesting (with a clearly defined aim), and by which criteria ISO will judge timely, eligible bids.
- ✓ Open/Restricted. Calls for tenders should preferably be open (widely advertised). In some cases a more targeted approach (whereby a few possible applicants are directly contacted) may be more effective, especially in cases of genuine time or source constraints. Derogations must be authorized by the Procurement manager, who must keep a list of such derogations so the reason for the derogation is documented. However, casting a wider (but cost-efficient) net may

help to attract a wider and more diverse pool of applicants. Where appropriate, social media can be helpful in getting the word out, as well as using a dedicated page at [www.iso.org](http://www.iso.org). Business units must consult the Procurement Manager on both the content and the manner of invitation for a call for tender to help strike the right balance.

- ✓ Templates: When issuing a call for tender where the business unit is seeking a more detailed proposal of the service/good offered to meet ISO's need, business units may use the RFP template maintained by the Procurement Manager.

A critical part of any RFP will be the careful selection and weighting of criteria. This is essential in the later selection process. Such criteria may include:

- I. Cost competitiveness of the offer
- II. Service and service level coverage
- III. Ability to meet timeframes
- IV. Company profile and stability
- V. Geographical coverage
- VI. Compliance with relevant regulatory bodies
- VII. Relevant experience and references
- VIII. Ease of implementation
- IX. Communication and technology
- X. Innovation and continuous process improvement
- XI. Methodology and project management
- XII. Environmental contribution and compliance
- XIII. Ability to respond to ISO financial requirements such as prices
- XIV. Future developments

The Procurement Manager can provide assistance in defining and weighting criteria for an RFP or other call for tender.

- ✓ Selection Process: Selection shall be made in a neutral and transparent manner and in accordance with the criteria predetermined in the initiation phase or as per the call for tenders. Cost-effectiveness and quality shall figure heavily in any weighted selection process.

The purchasing of goods or engagement for services from external sources bears inherent risks. Any selection process shall also take due consideration to manage any pre-identified risks of the acquisition and any potential risks of the engagement itself, including vis-à-vis the selected vendor or consultant.

The selection process should correspond to the delegation of authority in the Delegation of Authority and internal ISO/CS procedures.

Unsuccessful bids or offers should be notified to the applicant as soon as possible, while taking care to maintain confidentiality vis-à-vis other applicants, including the successful applicant.

- ✓ Contract Principles, Review and Management: AS per Delegation of Authority section above, all ISO contracts (including related to a procurement process) are subject to execution in accordance with Delegation of Authority and internal ISO/CS procedures. This also includes contract review by Legal Services, in accordance with its quality management practices.

Relevant business units must involve Legal Services as soon as possible in the procurement process so as to help identify and mitigate any risks, as well as increase efficiency for contract review and negotiation. Where possible, ISO's terms and conditions should be used, particularly for Framework Agreements and subsequent Project Agreements. Variation from ISO terms and conditions should be kept to a minimum.

This Policy may be referred to in contract review and negotiation, including for ISO Academy Donor Contracts.

All contracts, including amendments, purchase orders, and other contractual documentation should be properly kept by the relevant business unit, in accordance with internal ISO practices on archiving and record-keeping. Any relevant feedback regarding performance, including possible breaches or failures to perform, should be timely notified to the relevant line manager and/or Legal Services, as appropriate.

## **Learning outcome 2: Describe Concepts of BPO's**

### **Introduction to Business Process:-**

A **business process** is a collection of linked tasks which find their end in the delivery of a service or product to a client. A business process has also been defined as a set of activities and tasks that, once completed, will accomplish an organizational goal. The process must involve clearly defined inputs and a single output. These inputs are made up of all of the factors which contribute (either directly or indirectly) to the added value of a service or product. These factors can be categorized into management processes, operational processes and supporting business processes.

## **Introduction to BPO Industry:**

### **Business Process Outsourcing:**

Business process outsourcing (BPO) is the contracting of non-primary business activities and functions to a third-party provider. BPO services include payroll, human resources (HR), accounting and customer/call center relations.

BPO is also known as information technology enabled services (ITES).

BPO categories are front-office customer services (such as tech support) and back-office business functions (such as billing).

The following are BPO advantages:

- ✓ Business process speed and efficiency are enhanced.
- ✓ Employees may invest more time in core business strategies to bolster competitive advantage and enhance value chain engagement.
- ✓ Organizational growth increases when capital resource and asset expenditures are not required, which averts problematic investment returns.
- ✓ Organizations are not required to invest in unrelated primary business strategy assets, facilitating a shift in focus to specific competencies.

BPO risks include:

- ✓ Data privacy breaches
- ✓ Underestimated running costs
- ✓ Overdependence on service providers

Business Process Outsourcing (BPO) is outsourcing of business functions generally performed by white collar and clerical employees to achieve various benefits such as cost savings, better quality and ability to focus on core competence. BPO involves outsourcing processes that are not core to a company, however, are essential for smooth operation of the company. The customer transfers the complete responsibility of these functions to the vendor who guarantees certain service quality standards. Such processes include customer service, payroll processing, inventory management, etc. The global market size for BPO is estimated to be around USD 382.5 billion in 2004 according to market intelligence firm IDC. The research firm expects robust growth in the BPO industry with more and more companies reaping the benefits of BPO all over the world. The BPO market size is expected to reach USD 641.2 billion by 2009 with a Cumulative Annual Growth Rate (CAGR) of 10.9 percent from 2005 to 2009. BPO has evolved over the years, beginning with time-sharing data processing in the

1960s; according to technology research and consulting firm ebs. Over these years, like outsourcing, BPO has moved from being transactional (task oriented) to being strategic (process oriented). Table 1 provides the key milestones in the evolution of BPO.

## **Understanding Role of BPO Industry:**

In India, Business Process Outsourcing (BPO) is the fastest growing segment of the ITES (Information Technology Enabled Services) industry. Factors such as economy of scale, business risk mitigation, cost advantage, utilization improvement and superior competency have all lead to the growth of the Indian BPO industry. Business process outsourcing in India, which started around the mid-90s, has now grown by leaps and bounds.

India is now the world's favored market for BPO companies, among other competitors, such as, Australia, China, Philippines and Ireland. The BPO boom in India is credited to cheap labor costs and India's huge talent pool of skilled, English-speaking professionals. Research by the National Association of Software Services and Companies (NASSCOM) has revealed that quality orientation among leading BPO companies, 24/7 services, India's unique geographic location and the investor friendly tax structure in India have all made the BPO industry in India very popular.

## **Understanding type of BPO services:**

Indian BPO companies offer varied services, such as, customer support, technical support, telemarketing, insurance processing, data processing, forms processing, book keeping and internet / online / web research.

1. Customer support services: 24/7 inbound / outbound call center services that address customer queries and concerns through phone, email and live chat.
2. Technical support services: Installation, product support, running support, troubleshooting, usage support and problem resolution for computer software, hardware, peripherals and internet infrastructure.
3. Telemarketing services: Interacting with potential customers and creating interest for the customer's services/ products. Up-selling, promoting and cross selling to existing customers and completing online sales processes.

4. IT help desk services: Level 1 and 2 multi-channel support, system problem resolutions, technical problem resolution, office productivity tools support, answering product usage queries and performing remote diagnostics.
5. Insurance processing: New business acquisition and promotion, claims processing, policy maintenance and policy management.
6. Data entry and data processing: Data entry from paper, books, images, e-books, yellow pages, web sites, business cards, printed documents, software applications, receipts, bills, catalogs and mailing lists.
7. Data conversion services: Data conversion for databases, word processors, spreadsheets and software applications. Data conversion of raw data into PDF, HTML, Word or Acrobat formats.
8. Bookkeeping and accounting services: Maintenance of the customer's general ledger, accounts receivables, accounts payables, financial statements, bank reconciliations and assets / equipment ledgers.
9. Form processing services: Online form processing, payroll processing, medical billing, insurance claim forms processing and medical forms processing.
10. Online research: Internet search, product research, market research, surveys, analysis, web research and mailing list research.

## **Advantages/Benefits of a BPO**

1. **Flexibility**: Outsourcing non-core activities to a BPO allows a company to be far more flexible. Firstly, the company does not have to invest in additionally fixed assets and can convert them to variable costs. It also increases flexibility in resource management of the client company and helps in adapting to changes in the environment much faster.
2. **Cost Effective**: Outsourcing some of the business processes and activities can be very cost effective for the client company. They save on investing in fixed assets and fixed costs. And they can redirect these funds for their core activities. Also outsourcing to developing countries proves to be very cost saving for these companies. For example, if any large MNC was to outsource their IT services to India, they would save an average of 30% of the company's expenses. This is quite a significant difference.
3. **Speed**: One of the biggest advantages of BPOs is that they increase the speed of the business processes outsourced to them. They have a very good response time and the clients can focus on the core activities. This fragmentation of activities speeds up the whole process and is very important in cases like customer service.
4. **Skilled Manpower**: When you outsource one of your business activities to a BPO, you are insured of exemplary services provided by skilled manpower. So if you outsource your supply chain management, rest assured your supply chain will be handled by skilled supply chain managers who are experts in their field. Same goes for IT services or accounting etc.

## **Disadvantages/Limitations of BPOs**

There can also be certain general demerits of using a BPO for your non-core activities. The company can take steps to eliminate most of these disadvantages. Let us take a look.

### **1. Communication Problems**

There can be communication gaps between the client and vendor companies due to various reasons. There can be misunderstandings and missed messages. Also, both companies may adhere to different standards of services and this can also create friction between the two.

### **2. Different Time Zones**

This is another logistic problem with the Business Process Outsourcing. The client and the vendor can operate in two different time zones that are far apart. The difference in time can create many problems like online meetings, communication etc. It is usually the vendors that adjust their shifts to match the office hours of the client company.

### **3. Loss of Control**

Due to communication errors, time differences etc. the client company can at times lose control of the project. They may thus feel that the quality of services has suffered. Thus it is very important to have effective communication and transparency with a BPO project.

## **Define Payroll:**

If your business has employees, you'll have to do payroll. There's no way to avoid it, but what is payroll?

Well, payroll can mean a few different things-

1. Payroll refers to the employees you pay, along with employee information.
2. Payroll is also the amount you pay employees during each pay period.
3. Or payroll can refer to the process of actually calculating and distributing wages and taxes.

Components of Payroll-

- Employee information
- Hours worked
- Time off
- Salaries and wages

- Overtime pay
- Fringe benefits
- Other pay
- Deductions
- Payroll taxes
- Garnishments
- Net and gross

### **Define Quality Assurance:**

Quality: Quality is extremely hard to define, and it is simply stated: "Fit for use or purpose." It is all about meeting the needs and expectations of customers with respect to functionality, design, reliability, durability, & price of the product.

Assurance: Assurance is nothing but a positive declaration on a product or service, which gives confidence. It is certainty of a product or a service, which it will work well. It provides a guarantee that the product will work without any problems as per the expectations or requirements.

Quality Assurance is popularly known as QA Testing, is defined as an activity to ensure that an organization is providing the best possible product or service to customers. QA focuses on improving the processes to deliver Quality Products to the customer. An organization has to ensure, that processes are efficient and effective as per the quality standards defined for software products.

### **Working environment in BPO:**

If you are running a BPO, Call Center, Data Entry outsourcing company, or other outsourcing firm, you need to be refined in how to manage your work environment. I had an interesting chat with a buddy of mine who runs a small web development company. He says that at many of the more successful American IT and marketing companies, everyone works in one large room, where the cubicles have low walls, so you can see everyone at a glance. This was an interesting opinion. So, what is better, private cubicles, a room filled with desks and no dividers, or completely separate rooms? If it is up to me, I like a separate room, but if I am managing others, I like to be able to hear them faintly in the distance, so if they are telling a client the wrong thing, I can run in and intervene — but I get relative peace and quiet simultaneously. In the real world, my perfect environment is not so easy. Are there studies that discuss the advantages of office set ups? I am reading on Wikipedia that having a bunch of people working together in the same large room is



called an “Open Plan”, and contributes to higher noise, higher turnover, and stress. I can relate to that.

I’m reading another blog called The Good Work Circle that claims that many larger companies are getting rid of cubicles and adopting an open workspace office set up. The open workspace model was better for communication and a sense of community.

I like the idea of a hybrid system for BPO companies, where you get your private space and quiet part of the day, but can have togetherness during other parts of the day. Another factor is how cool the building is that you are working in. A really pleasant work environment for BPO companies might have high ceilings, art work, a pool table, a pleasant break room, and places to interact with others. If rooms are too small or efficient, then it might not be so pleasant to be in them. A good balance between space efficiency and coolness might win the game in the long run. It is good to not overlook the fact that many people just don’t care about how cool the building is while others who are more tuned it will really notice and just not want to hang around if the work environment is not up to their standards for coolness!

Since every group of employees is different, rather than reading a book written by an “expert”, why not listen to YOUR employees and see what they say about what they think a good layout would be! That way you please the people who you are stuck with, and can make the best out of it. And remember, BPO companies in India have a high turnover rate, so if you can make your employees lives better, they will stay around longer!

## Unit – 3: Fundamentals of Learning

### Learning outcome1: Understanding Basics of Learning

#### Understanding concepts of learning, knowledge and skill:

In common parlance the word 'learning' carries at least two meanings. There is a general one of some kind of change, often in knowledge but also in behavior. However, learning cannot be defined merely in terms of changes in behavior. But there is also a more intense sense of the verb 'to learn' meaning to memorize, to learn by heart (Roger, 2003, p.86).

To say that 'learning is change' is too simple. Not all change is learning. What we usually mean by 'learning' are those more or less permanent changes and reinforcements brought about voluntarily in one's patterns of acting, thinking and/or feeling (Roger, 2003, p.86).

According to Ambrose et al. (2010, p.3):

- Learning is a process, not a product
- Learning is a change in knowledge, beliefs, behaviors or attitudes
- Learning is not something done to students, but something that students themselves do

There have been several attempts to describe the different areas of learning change. The traditional distinction has been between learning knowledge and learning skills; but others have elaborated on this. Several point to the need to include attitudes as a third area. In the field of learning objectives, knowledge, skills and attitudes (KSA) is a well-worn path (Rogers, 2003, p.86).

Kurst Lewin (1935) suggested that learning changes occur

- in skills,
- in cognitive patterns (knowledge and understanding),
- in motivation and interest, and
- in ideology (fundamental beliefs) (Rogers, 2003, p.86).

Robert M. Gagné (1972) identified the following five domains or types of learning outcomes:

- motor skills which require practice,

- verbal information - facts, principles and generalizations which when organized into larger entities become knowledge,
- intellectual skills - the 'discriminations, concepts and rules' that help in using knowledge,
- cognitive strategies - the way the individuals learns, remembers and thinks, the self-managed skills needed to define and solve problems, and
- Attitudes (Rogers, 2003, pp.86-87).

## **Learning outcome2: Describe learning terminology**

### **Introduction to learning concept of learning:**

Learning is about a change- the change brought about by developing a new skill, understanding a scientific law, changing an attitude. The change is not merely incidental or natural in the way that our appearance changes as we get older. Learning is a relatively permanent change, usually brought about intentionally. When we attend a course, search through a book, or read a discussion paper, we set out to learn! Other learning can take place without planning, for example by experience. Generally with all learning there is an element within us of wishing to remember and understand why something happens and to do it better next time.<sup>34</sup>

### **Importance of learning:**

One of my most treasured values is my love of learning. Learning is something that impacts nearly every facet of my existence every day. I am constantly learning new things, or expounding on existing knowledge. Even when I am not learning, I am applying skills or knowledge, even if it is just a logic problem in a puzzle book, in order to exercise my mind. Without my drive and desire to learn I would have never started gardening, writing, painting, drawing, making my own jewelry, crafts, baking, or any of my other hobbies and art forms. Learning new information, such as history and social science is vital to our evolution as a civilization. We must learn from our past, our societal flaws, and our behavior in order to become a better functioning society. The individuals that ignore or resist learning opportunities become mentally atrophied.

Those who cannot or will not stop to examine, study, and analyze the world around them seem to have little to no ability to apply any form of analysis upon themselves, thus cannot achieve a level of self-actualization. Those without any motivation to learn seem to lead a semi-conscious existence. They appreciate things less, are more socially awkward, are less likely to pick up on details, and are more likely to be fearful or prejudicial against things they do not understand. As a result they are less emotionally fulfilled, but they cannot understand why. It is common to say that ignorance is bliss, but from what I have seen that is only an illusion, because those who are ignorant lack the self-reflection necessary to understand how un-blissful they truly are. It is true that knowing hard truths can make people depressed, angry, frustrated, or even terrified, but not knowing keeps you in just a vulnerable or dangerous position without the

benefit of knowing what to expect or how to prepare. Learning and understanding truths has always been a fulfilling and ultimately beneficial experience for me, even when the new information is unpleasant. The most important things in my life have been a result of endless and eager learning. I have learned how to be an artist, a gardener, a cook, and a caretaker to every type and number of helpless little creature. I taught myself how to be a good mother, which is by far the most valuable role I can possibly play in this world. Unfortunately, many refuse to learn; even to be a good mother to their children. My mother taught me the importance of learning from an early age. She has two Associate's degrees and a Bachelor's degree herself, and was a teacher for some time. I too am hoping to become a teacher, probably in history. I would love to teach high school American History because I think that a thorough, honest understanding of our history, especially slavery, women's history, our wars, and the intricate workings of our economy and government is so very vital to the betterment of our country's future. I would also love to spread information through a larger demographic, becoming a teacher of a different fashion through journalism, public activism, and political commentary. We seem to have a short attention span in this country when it comes to history, and learning is not high enough on the priority list. I don't think those that have a true value for learning are in the majority. I have watched congressmen and alleged professionals on national television misquote, misdate, and misinterpret chapters in history over and over again, and quite recently. So I think it is imperative that we teach our children the absolute truth so that they are never in a position to be seen as ignorant, nor in a position to hear untruths coming from someone else and be so naïve as to believe that they are true. Learning is beneficial emotionally, financially, physically and socially. An educated public improves society as a whole. The greatest power of all lies inside the mind, and with everything that we learn we strengthen the mind, thus strengthening our personal power.

### **Characteristics of learning:**

On the basis of analysis of various definitions of learning Yokam, Simpson and Mursel have given the following characteristics of learning:

1. Learning is Growth.
2. Learning is Adjustment.
3. Learning is Intelligent.
4. Learning is Active.
5. Learning is the product of Environment.
6. Learning is both Individual and Social.
7. Learning is Purposeful.

8. Learning is organising Experience.
9. All living is Learning.
10. True Learning affects the conduct of the learner.
11. Learning is Universal.
12. Learning is Change.
13. Learning is a Process not a product.
14. Learning is transferable.
15. Learning is total reaction of the individual to total situation.

## Different type of learning:

1. Skill Learning-

Right from the birth, the child acquires skill. His bodily organs learn to handle the things. He moves his legs and begins to crawl. In course of time, he learns other motor, skills, like walking, speaking, drawing, writing, reading, playing music, cycling and swimming etc.

2. Perceptual Learning-

The child gets sensations through his organs of sense, and he attaches meaning to each sensation. The earliest sensations of the infant are undifferentiated to the extent that he cannot differentiate between one object and another. In course of time, he recognizes specific objects, and perceives these separately.

Indian psychologists have given explanation of perceptual learning its types and processes. They define conceptual learning as sense object contact. Pure sensation is indeterminate perception, and is the first stage in perceptual learning. The second step is determinate perception, where in the object is revealed as endowed with its attributes and characteristics.

3. Conceptual Learning-

As concrete thinking leads to abstract thinking perceptual learning is followed by conceptual learning. A concept is a general idea, universal in character. A child sees a particular cow, and forms some ideas of a cow, with some particular characteristics. Here the ideation is on the basis of one particular cow. This is the particular percept but when the a child sees number of cows, with some common characteristics, he locates certain general qualities in all the cows, and on the basis of these he forms a conception of 'cow'. This is on the basis of percept which is made general.

Thus the a child proceeds from particular to general and forms, in course of time, innumerable concepts, sometimes concrete and sometimes abstract. This is the basis of all thinking and ideational learning. When a few concepts are learnt, this forms the basis of raising the super-structure of knowledge and education, through association and assimilation.

4. Associative Learning-

Conceptual learning is helped by associative learning in amassing a wealth of knowledge. New concepts are tagged with the past concepts through association, and as such knowledge.

5. Appreciational Learning-

While conceptual learning is on the affective side. A child, from the very beginning, utilises his inborn trait of aesthetic sensibility, and acquires concepts coloured by appreciation.

#### 6. Attitudinal Learning-

Attitudes are generalised dispositions for certain particular concepts, things, persons or activities. A child develops an attitude of affection towards his mother, an attitude of reverence towards the teacher, and an attitude of belongingness towards the family. His attitude towards play is most favourable. All this he learns and adopts gradually.

### **Factors affecting learning:**

#### 1. Intellectual factor-

The term refers to the individual mental level. Success in school is generally closely related to level of the intellect. Pupils with low intelligence often encounter serious difficulty in mastering schoolwork. Sometimes pupils do not learn because of special intellectual disabilities.

A low score in one subject and his scores in other subjects indicate the possible presence of a special deficiency. Psychology reveals to use that an individual possess different kinds to intelligence. Knowledge of the nature of the pupil's intellect is of considerable value in the guidance and the diagnosis of disability.

The innate capacity of the individual is of prime importance in determining the effectiveness of the, learning process.

#### 2. Learning factors-

Factors owing to lack of mastery of what has been taught, faulty methods of work or study, and narrowness of experimental background may affect the learning process of any pupil. If the school proceeds too rapidly and does not constantly check up on the extent to which the pupil is mastering what is being taught, the pupil accumulates a number of deficiencies that interfere with successful progress.

In arithmetic, for instance, knowledge of basic addition is essential to successful work in multiplication. Weakness in addition will contribute directly to the deficiency in multiplication. Likewise, failure in history may be due to low reading ability or weakness in English.

Similarly, because of faulty instruction, the pupil may have learned inefficient methods of study. Many other kinds of difficulty which are directly related to learning factors may interfere with progress.



### 3. Physical factors-

Under this group are included such factors as health, physical development, nutrition, visual and physical defects, and glandular abnormality. It is generally recognized that ill health retards physical and motor development, and malnutrition interferes with learning and physical growth.

Children suffering from visual, auditory, and other physical defects are seriously handicapped in developing skills such as reading and spelling. It has been demonstrated that various glands of internal secretion, such as the thyroid and pituitary glands, affect behavior. The health of the learner will likely affect his ability to learn and his power to concentrate.

### 4. Mental factors-

Attitude falls under mental factors attitudes are made up of organic and kinesthetic elements. They are not to be confused with emotions that are characterized by internal visceral disturbances. Attitudes are more or less of definite sort. They play a large part in the mental organization and general behavior of the individual.

Attitudes are also important in the development of personality. Among these attitudes are interest, cheerfulness, affection, prejudice, -open mindedness, and loyalty. Attitudes exercise a stimulating effect upon the rate of learning and teaching and upon the progress in school.

The efficiency of the work from day to day and the rapidity with which it is achieved are influenced by the attitude of the learner. A favorable mental attitude facilitates learning. The factor of interest is very closely related in nature to that of symbolic drive and reward.

### 5. Emotional and social factors-

Personal factors, such as instincts and emotions, and social factors, such as cooperation and rivalry, are directly related to a complex psychology of motivation. It is a recognized fact that the various responses of the individual to various kinds of stimuli are determined by a wide variety of tendencies.

Some of these innate tendencies are constructive and others are harmful. For some reason a pupil may have developed a dislike for some subject because he may fail to see its value, or may lack foundation. This dislike results in a bad emotional state.

Some pupils are in a continuing state of unhappiness because of their fear of being victims of the disapproval of their teachers and classmates. This is an unwholesome

attitude and affects the learning process to a considerable degree. This is oftentimes the result of bad training.

Social discontent springs from the knowledge or delusion that one is below others in welfare.

#### 6. Teacher's Personality-

The teacher as an individual personality is an important element in the learning environment or in the failures and success of the learner. The way in which his personality interacts with the personalities of the pupils being taught helps to determine the kind of behavior which emerges from the learning situation.

The supreme value of a teacher is not in the regular performance of routine duties, but in his power to lead and to inspire his pupils through the influence of his moral personality and example. Strictly speaking, personality is made up of all the factors that make the individual what he is, the complex pattern of characteristics that distinguishes him from the others of his kind. Personality is the product of many integrating forces.

In other words, an individual's personality is a composite of his physical appearance, his mental capacity, his emotional behavior, and his attitudes towards others. Effective teaching and learning are the results of an integrated personality of the teacher.

Generally speaking, pupils do not like a grouchy teacher who cannot control his temper before the class. It is impossible for a teacher with a temper to create enthusiasm and to radiate light and sunshine to those about him.

Pupils love a happy, sympathetic, enthusiastic, and cheerful teacher. Effective teaching and learning are the results of love for the pupils, sympathy for their interests, tolerance, and a definite capacity for understanding.

The teacher must therefore recognize that in all his activities in the classroom he is directly affecting the behavior of the growing and learning organism.

#### 7. Environmental factor-

Physical conditions needed for learning is under environmental factor. One of the factors that affect the efficiency of learning is the condition in which learning takes place. This includes the classrooms, textbooks, equipment, school supplies, and other instructional materials.

In the school and at the home, the conditions for learning must be favorable and adequate if teaching is to produce the desired results. It cannot be denied that the type

and quality of instructional materials and equipment play an important part in the instructional efficiency of the school.

It is difficult to do a good job of teaching in a poor type of building and without adequate equipment and instructional materials. A school building or a classroom has no merit when built without due regard to its educational objectives and functions.

### Learning outcome3: Describe concept of learning, knowledge and skills

#### Introduction to sources of learning:

Learning resources include-

Textbooks (print and digital)	Apps	
Workbooks	Websites	Study guides
Worksheets	Software	Teacher guides
Manipulatives (blocks, beads, etc.)	Online courses	Labs
Flashcards	Activity books	Models
Educator workshops	Graphic novels	Movies
Non-fiction books	Reference books	Televisions shows
Posters	DVDs	Webcasts
Educational games	CDs	Podcasts
	Magazines & periodicals	Maps & atlases

At the AAP PreK-12 Learning Group we support the development and delivery of quality learning resources in all media, across all ages, for all educational settings. Our members provide a rich array of innovative educational materials for formal classroom instruction and personal learning outside the school, touching virtually every school, teacher, student, and family. Content can encompass an entire semester on the works of Shakespeare or provide a deeper dive into a single topic like multiplying fractions or learning how to juggle.

We acknowledge that students can't learn from one type of instructional material alone and believe that it's the educators, parents, and administrators who can best determine what content will be effective for learners. Supplemental resources help teachers differentiate instruction and engage students who, for whatever reason, need enrichment beyond the core classroom material. No matter which materials are used, though, parents and educators should hold all instructional content providers accountable for the quality of their learning resources.

Resources for formal learning must consider reading, language, developmental, and ability levels; include qualitative and quantitative assessment; and contain comprehensive teacher guides. In addition, they must be accurate, evidence-based, objective-driven, and designed to engage today's students and teachers as well as aligned to state, district, and curriculum standards. Informal learning resources must

still adhere to quality content and design standards as well as providing a meaningful education experience.

## **Use of learning:**

Here are some of the biggest benefits/Uses of learning a new vocational skill

### **1. Your brain chemistry changes.**

The white matter in your brain is called myelin, and it helps improve performance on a number of tasks. The more people practice a new skill they are learning, the denser the myelin in their brains becomes, which helps them learn even better.

### **2. Your learning speed increases.**

Learning a new skill helps you learn things faster over time. By stimulating neurons in the brain, more neural pathways are formed and electrical impulses travel faster across them as you attempt to process new information. The more pathways that are formed, the faster impulses can travel.

### **3. You make connections between skill areas.**

Part of learning a new skill is connecting that skill to information and skills you already know. Prior knowledge helps people relate to new information and build on existing knowledge, which makes it easier to learn even more new skills.

### **4. You become a more interesting person.**

Well-rounded individuals have an easier time relating to others and have more things in common with them. Being a more interesting person will draw others to you and improve the quality of your life as your relationships improve and deepen.

### **5. It fights boredom.**

Learning new things keeps your interest level high so you don't get bored as easily. Doing the same things over and over again can quickly become monotonous, but learning a new skill breaks that cycle of monotony and prevents boredom from setting in.

## 6. You adapt better to change.

When you learn something new, your mind and your perceptions change, which in turn makes it easier to adapt to the inevitable changes life always tends to bring. Adapting to change is a skill in itself, and the more varied your life experience is, the easier it is to adapt to change.

### Explain knowledge and skill:

#### Knowledge-

Knowledge is an abstract concept without any reference to the tangible world. It is a very powerful concept, yet it has no clear definition so far. From the Greek philosophers up to present experts in knowledge management, people tried to define knowledge but the results are still very fuzzy. This chapter has the intention of showing the most significant aspects of the dispute over the definition of knowledge, and the main conceptual barriers in that endeavor. In the first part of the chapter we discuss about the knowledge nature and the attempts made in epistemology to define knowledge. The well-known definition that knowledge is justified true belief is shown to have the limitations given by the justification condition and the truth nature. In the second part, we consider the metaphorical approach to knowledge explanation and we present the main metaphors used for knowledge in the managerial literature: knowledge as objects, knowledge nuggets, knowledge as an iceberg, and knowledge as stocks and flows. In the last part, we introduce a new paradigm of metaphorical thinking based on the knowledge energy. This metaphor opens new opportunities for understanding knowledge as a multi-field paradigm composed of the rational, emotional, and spiritual knowledge fields.

#### Skills-

The concept of skill that is intended to be at once scientific, oriented towards human, social and economic progress, and relevant for a discussion of social and economic action in 21st century settings. In other words I aim to situate skill within the tradition of political economy. Thus, skill is a personal quality with three key features:

- i. Productive: using skill is productive of value;
- ii. Expandable: skills are enhanced by training and development.
- iii. Social: skills are socially determined.

## Understanding the importance sources of learning:

Here are a few education techniques to consider the importance of sources of learning.

### 1. Learning online with the right websites.

The Internet is a great educational resource for anyone seeking more information about earning money through their investments. However, it is important that you take the time to turn to the right resources. Websites such as Lynda, Udemy and Profit.ly are all great resources for aspiring millionaires. Sites like this allow you to learn and interact with the best traders online so that you can take your trading skills to the next level. These online educational marketplaces are designed to help people hone their learning skills and are valuable tools for individuals that want to learn as much as they can about the market and different trading techniques.

### 2. Books.

Reading is the cheapest but most effective way to learn the valuable tools needed to trade smart and earn a great deal of money. You can buy books online or in bookstores, purchase e-books for a discounted price or even get a library card and check them out from your local library. The point is that investing in books will provide you with a more applicable amount of knowledge on investing than a college degree (and it is much cheaper as well!). You should see top rated stock market books here. Never underestimate the power of a good book.

### 3. Follow other successful people on social media.

To learn how to be successful you need to know what other successful people are doing with their time. Get on all of the major social media sites such as Twitter, LinkedIn and Quora and start following successful and established investors. Learn what these people are doing and saying, and how they think. Learning from individuals such as these is a great way to see first-hand what the best in the business do. You may be surprised to find just how much they reveal from their social media accounts.

### 4. Become an expert in niche categories.

To become rich you need to become a specialist in a niche category few other people specialize in. To make a significant amount of money focus on non-traditional ways of earning that type of income. You don't need to be a doctor or a lawyer to make money. In fact, you don't want to be a doctor or a lawyer if your focus is on making money. In addition to having hefty school loans, these individuals often have a set ceiling on how much they can make. Think outside the box and you can open up your earning potential much more.

## 5. Failures and mistakes are a crucial part of your education.

One of the biggest parts of your education is actually in the failures and mistakes that you make. They are essential to your development. You shouldn't fear them, but instead embrace and learn from them. You are going to fail. The key is to fail fast, fail often and fail forward, meaning that you adapt to your failures, learn from them and look to the future. The sooner you make your mistakes and the quicker you move on from them, the sooner you can adapt in your pursuit of success.

### **Difference between knowledge and skill:**

Two words that describe a person's competence 'knowledge and skill'. At first glance, both of them seem synonymous but give it some thought and you would realize both of them are very different concepts.

Knowledge refers to learning concepts, principles and information regarding a particular subject(s) by a person through books, media, encyclopedias, academic institutions and other sources. Skill refers to the ability of using that information and applying it in a context. In other words, knowledge refers to theory and skill refers to successfully applying that theory in practice and getting expected results. For instance, a sales person armed with an MBA degree may have learned all the principles of marketing and selling in his business school. Going forward, in his work he would know more about his company, in the arena of its product line, target market, competitors etc. All the above is knowledge. Transferring this knowledge to create a successful sales strategy and pitch and achieving those sales targets is the sales person's skill. Trial and error methods are a great way of adding to your skills. Sometimes, certain skills are inherent in a person. For instance, some people are born carpenters. But skills can take a person only to a certain level. To move ahead, it is necessary that a person has the requisite knowledge as well. For instance, while a person may have a good hand in carpentry, acquiring an engineering degree can do wonders for the person's skills. In the same manner, some people may have theoretical knowledge but may just not be able to use it while performing a task.

From a philosophical perspective, knowledge is intangible but skills can be made tangible by applying those skills to a context and getting the desired result.

Also, theoretical knowledge can be shared with other people. Some skills can never be transferred to other people. For instance, a good car mechanic may immediately know a problem with the car because of the intuitiveness he or she has built over years of repairing different cars. The same car mechanic may not be able to develop this intuitiveness in his apprentice.



## Summary:

1. Knowledge refers to theoretical information acquired about any subject whereas skills refer to practical application of that knowledge
2. Knowledge can be learned whereas skills require practical exposure and can also be in-born
3. Ultimately, both knowledge and skill are required to master a field of study

## Types of knowledge:

1. Posteriori knowledge- The term “posteriori” is a Latin term which means “from which comes after”. Therefore, posteriori knowledge refers to “what comes after experience”. In simple words, posteriori knowledge is a knowledge which is derived from practical experiences. The term “Posteriori” is applied to information which is developed with direct observations unlike mathematics or logical processes which don’t require empirical evidence.
2. Priori knowledge- The term “priori” is a Latin term which means “from before”. Unlike posteriori knowledge, a priori knowledge is deduced from first principles. Therefore a priori knowledge is the assumptions that come before all the arguments, analysis or assessment.  
For example, if you know that there are 10 boys and 15 girls in a classroom, this priori knowledge will help you to select a team of 2 boys and 2 girls from the class. A priori knowledge is commonly used in areas like logical thinking, mathematics, physics, and thought experiments. In the science field, scientific theories are developed and proved using priori evidence.
3. Dispersed knowledge- Dispersed knowledge has no reliable source of truth. It is a condition where information about a matter is divided amongst many sources. Let’s understand this type of knowledge with an Indian old folktale in which a few blind people describe an elephant by touching the different part of the animal, thus, reach significantly different conclusions.  
This type of knowledge commonly exists in the financial market because of its fast-moving nature. Different people concerned with a company have different knowledge about the company.  
For example, a banker may know about the financial condition of the company, whereas an insider may have knowledge about the company’s recent deals and a customer of the company may notice the decline in the company’s service. Therefore, dispersed knowledge can create uncertainty among investors about the company.

4. Domain knowledge-This type of knowledge is related to a specific field. The term “domain” is used for a particular area and domain knowledge is ability, information, or understanding about a specific field, subject, profession, topic, or activity. This term is mostly used to describe an expert’s expertise in a particular area.  
The term “domain knowledge” can’t be used for subjects like mathematics and physics, because these subjects have applicability in a wide variety of problems. Therefore, domain knowledge has significance within that particular area and it is useless outside. For example, expertise in a software language or skills involved in running fast.
5. Empirical knowledge- This type of knowledge is attained from qualitative or quantitative observations, experiments, or measurements. The term empirical is derived from the Greek word “Empeiria”. The meaning of “Empeiria” is experience in the Greek language. Empirical information can be used to verify the truth or to prove the falsity of an argument.
6. Encoded knowledge- Encoded knowledge also called collective explicit knowledge. This type of knowledge is conveyed by symbols and signs, like books, documents, manuals, notes, and codes of practice. This knowledge is helpful to produce an incorporated and predictable pattern of output and behavior in an organization.
7. Explicit knowledge- Explicit knowledge also referred to as expressive knowledge. This type of knowledge can be easily expressed, organized, and verbalized. It is put into words in a natural language like English, German, French etc. Therefore, it is easy to access and transmit to others. The information obtained from documents, encyclopedia, how-to-videos, or procedures is the best example of explicit knowledge.
8. Known unknowns - Known unknowns type of knowledge is that type of knowledge that you know but you don’t know yet. This type of knowledge is very beneficial for someone because having the awareness that you don’t know something gives an opportunity to research and enhance.  
The things that one doesn’t know help one to make effective decisions because such things represent uncertainties and risks. For example, an investment made on the purchase of stocks of a company with the knowledge that it may lead to disappointment in the future.  
When scientists discover a new plant and don’t know if it has water on it or not is another example of known unknowns. However, there are certain things that one doesn’t know even exist. This type of knowledge is named as “unknown unknown”. This type of knowledge is difficult to include in decision making.

9. Metaknowledge- This type of knowledge is knowledge about knowledge. Meta-knowledge is used to define things like tags, taxonomies, models, which are helpful to describe knowledge.

Quite a lot of academic areas like the study of books, epistemology, bibliography, or the philosophy of knowledge, are considered as meta knowledge. Meta-knowledge is a fundamental instrument for fields like knowledge engineering, knowledge management etc. Example of meta knowledge is planning, modeling, learning, and tagging of domain knowledge.

10. Procedural knowledge- Procedural knowledge is being aware of how to do something. This type of knowledge is difficult to convey, because of its job-dependent nature. In the legal system, procedural knowledge is considered as the intellectual property of a company and it can be acquired after the company is procured.

Procedural knowledge involves more senses, such as practical experience, practice at solving problems etc. Procedural knowledge is different from descriptive knowledge because everyone has a different procedure to do a similar task and descriptive knowledge is obtained by doing.

11. Propositional knowledge- Propositional knowledge is also known as descriptive, declarative, or constative knowledge. This type of knowledge can be represented in a natural or formal language such as mathematics or propositional logic. For instance, a rose is a flower, Moon is sub-planet of earth,  $a+b>b+c$ .

12. Situated knowledge- Situated knowledge comes from a viewpoint. It reflects a context. This type of knowledge can be used to give an explanation of the difficulty of analyzing history or culture being an outsider. For instance, American researcher can form a theory about Indians but it can be different from how Indians view themselves.

13. Tacit knowledge- This type of knowledge is difficult to articulate, explain or attain, such as mastering to play a musical instrument or solving puzzles. It is also associated with unique experiences which allows selective people to achieve mastery in a particular art.

Emotional intelligence is the best example of tacit knowledge because it comes naturally to some people to use emotions to achieve results. Other than that intuition, strategy, problem-solving, and decision making are kind of tacit knowledge. Some people are naturally good at them.



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