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All BlogsBudgeting ResourcesCapacity ManagementCost Control and ManagementStrategic Cost ManagementStrategic SourcingRelevant CostSpend AnalysisValue Analysis and EngineeringValue AnalysisValue EngineeringCost Control and ManagementBOOT CAMP - Financial Modeling (6 Hrs)Boot Camp: LEARN Financial Modeling in Just 6 Hours!Table Of Contents Capacity management refers to the strategy applied by businesses to maximize production efficiency owing to the overall demand for a product or service in the market. Its goals include identifying and eliminating bottlenecks in the manufacturing process and increasing the production speed by optimizing available resources and removing time and capacity constraints. It helps companies overcome challenges in meeting short- and mid-term customer demand, managing supply chain operations, and formulating long-term organizational plans. In doing so, an organization must analyze the availability of its resources to ensure it achieves the production output within the given period. This practice is common in industries like manufacturing, retail, service, and information technology. Capacity management helps businesses meet consumer demand by cost-effectively improving their production efficiency over a set period. It is accomplished by removing bottlenecks in the production process and utilizing available resources, which leads to maximum output. The more commonly used management strategies include lead strategy, lag strategy, match strategy, and dynamic strategy. Using this strategy offers several benefits for businesses, such as streamlined operations, increased market share, customer retention and acquisition, and better inventory and supply chain management. Aside from being heavily employed in the manufacturing industry, the strategy is practiced in the retail and commercial, information technology, and service industries. Implementation of best practices in industries has helped businesses achieve growth in terms of market share and revenue. In the era of the Industrial Revolution, various industries explored capacity management as a way out to increasing production pressure. But it was during the First World War when the organizations started to consider matching their capacity with the available resources to meet demand.Market demand keeps changing due to many external factors, such as consumer choices, seasonal changes, macroeconomics, and the industrial revolution. All this may affect the way a business is run and result in loss of capacity. The failure to keep production at maximum efficiency will have a direct impact on profits.So to achieve maximum efficiency, a business needs to track the data about its human and material resources, inventory, expected profitability, etc. All this combined constitute an effective capacity management strategy. It can use this information to match capacity to demand and efficiently allocate resources to achieve its target. Although there are many resource capacity planning tools to calculate and organize these data, knowing about the strategy behind all this is still a required skill.Strategic capacity planning in operations management requires businesses to: Determine their goals Understand the sales demands Analyze the opportunities Evaluate their resources Eliminate bottlenecks Review production capacity For example, if a production line can theoretically assemble 500 goods per hour but assembles only 400 most of the time, there must be a bottleneck.Industrial managers have devised a few strategies to achieve better results to increase the business production capacity. Below are some of the most popular capacity management strategies:Using this conservative approach, a manager determines the capacity and then waits until there is an actual steady increase in demand. Then, the manager raises the production capabilities to a level to satiate the current market need.The main drawback of this option is that the business will lose the chance to sell more if the demand goes up too quickly, as increasing production often takes time. Also, a shortage of inventory might result in customer attrition.Unlike the lag strategy, this strategy is very aggressive and much riskier. The business decides to increase the capacity before there is an actual demand and anticipates that this will suffice if it goes up. It is used in cases where a company expands or in industries where sales demand goes up quickly. So, small firms usually avoid this kind of strategy.However, there are a few issues with this approach. For instance, if the actual demand does not go up, it could increase the inventory storage costs and the risk of inventory wastage.This forecast-driven strategy focuses on relying on market trends to increase capacity. The manager analyzes the sales forecast data and actual demand and then makes adjustments to production in advance.It is one of the safest approaches as managers have accurate forecast data that will qualify their capacity targets. Also, it decreases the risk of shortage or wastage of inventory.This strategy mixes up lead and lag strategies. It uses small yet significant additions in the capacity of the company by following the market demand. Whenever it is clear that demand will rise, the company boosts its production in small amounts.If the demand goes up quickly, the company can at least grow its sales a bit. If it does not, the company will not suffer huge losses. However, the business will never fully enjoy a significant spike in demand or escape unharmed from a sudden recession in the market.Todd is the manager of a company that produces paper sheets. He evaluates the company sales and notices that the company is constantly selling 500,000 packages every month, which is its maximum capacity.So, he decides to use a lead strategy and bets on growth. Todd increases the production to sell 600,000 packages monthly, so the company will not lose the chance to enjoy any spike in demand.Clair, on the other hand, is the manager of another company in the same industry. Sales here are very different each month, ranging from 300,000 in some months to 500,000 in others. Unlike Todd, she uses a lag strategy. If demand skyrockets, she will upgrade the production. She does not have the same incentives to enhance production so quickly.The COVID-19 outbreak across the world has affected supply chains of various industries, including healthcare. Moreover, the ramped-up manufacturing and distribution of vaccines in response to the pandemic have posed many challenges before drug manufacturers. But applying capacity management practice could help pharmaceutical companies overcome these challenges to keep vaccine production flowing.A strong capacity management strategy will bring several benefits to a business. These are some of the main positive aspects that it will change: It will enhance their ability to monitor the costs, especially during growths or recessions. This way, the business will detect shifts in price quickly and can act accordingly. Using capacity management helps plan production cycles ahead of time to maximize production efficiency. It will reduce the overall costs of doing business. As such, a company can identify parts of its business not optimized and remove the bottlenecks. Good capacity management planning will help manage inventory better and deal with problems in the supply chain. It allows better allocation of human and material resources. Finally, it helps to scale a business, for example, having an in-depth understanding of how to operate before opening a new branch. Capacity management is the process of designing, controlling, and managing the use of an organization's resources, including people, equipment, and technology, to meet the demands of its customers. This involves monitoring and optimizing the utilization of resources, ensuring that they are being used efficiently and effectively to meet the needs of the business and its customers. Capacity management helps organizations identify any constraints or bottlenecks in the production process and find ways to eliminate them, ensuring that they have the ability to meet their production goals while maintaining high levels of quality and efficiency.Capacity management is a process that ensures the availability of sufficient capacity to meet up with the agreed requirements and needs of a business in a cost-friendly manner.It's used to create a capacity plan to deal with both future and current capacity and performance issues. The most crucial thing about capacity management is it's useful for budgeting and planning purposes throughout IT service management. Capacity management also defines metrics that measure the use of performance and capacity.The capacity management process typically includes the following steps:Assessment: Analyze the current production process and identify any constraints or bottlenecks that may be affecting production efficiency.Planning: Develop a capacity management plan that outlines the organization's goals and objectives, as well as the strategies and resources required to achieve them.Design: Design the production process to optimize the use of resources and eliminate any constraints or bottlenecks.Monitoring: Continuously monitor the utilization of resources and assess their effectiveness in meeting production goals.Optimization: Make any necessary adjustments to the production process to improve resource utilization and increase efficiency.Evaluation: Regularly evaluate the success of the capacity management process and make any necessary improvements.Adaptation: Continuously adapt the capacity management process to changing market conditions and customer demands.The main objectives of capacity management are:To ensure that an organization's resources are being used efficiently and effectively to meet customer demand.To minimize waste and optimize resource utilization, reducing costs and increasing profitability.To ensure that an organization has the capacity to meet production goals and meet customer demands in a timely and efficient manner.To identify and eliminate any bottlenecks or constraints in the production process that may be affecting production efficiency.To continuously monitor and improve the utilization of resources, ensuring that they are aligned with business objectives and customer demands.To provide accurate forecasting and planning information to support decision-making and help the organization respond to changes in the market.To ensure that an organization has the resources it needs to meet future demands and remain competitive in the marketplace.By effectively managing its resources, an organization can increase efficiency, reduce costs, and improve customer satisfaction.The importance of capacity management can be summarized as follows:Meeting customer demand: By ensuring that the production process has the capacity to meet customer demand, organizations can improve customer satisfaction and increase customer loyalty.Improved efficiency: Capacity management helps organizations monitor and optimize the utilization of resources, increasing the efficiency of the production process and reducing waste.Cost savings: By making the best use of available resources, organizations can reduce costs and increase profitability.Improved competitiveness: By having the capacity to meet customer demand, organizations can remain competitive in the marketplace and increase their market share.Improved planning: Capacity management provides a framework for planning and decision making, allowing organizations to make informed decisions about resource utilization and production goals.Adapting to change: Capacity management helps organizations adapt to changes in customer demand or the marketplace, allowing them to maintain the capacity they need to meet customer demand.Better use of resources: By optimizing the utilization of resources, organizations can improve the productivity of their production process and make the best use of available resources.Increased reliability: By monitoring the utilization of resources, organizations can identify potential bottlenecks and take action to prevent production downtime, increasing the reliability of their production process.Improved decision making: By collecting and analyzing data on resource utilization, organizations can make informed decisions about resource allocation, production goals, and capacity utilization.Here are a few examples of how capacity management can be applied in different industries:Manufacturing: A manufacturing company may use capacity management to ensure that its production lines are running efficiently and effectively, with the right mix of machines, people, and materials. The company may also use capacity management to monitor inventory levels and adjust production schedules to meet changing customer demand.IT: An IT organization may use capacity management to ensure that its infrastructure, including servers, storage, and network resources, is being used effectively to meet the needs of its users. The company may also use capacity management to identify and eliminate any bottlenecks in the IT infrastructure that may be affecting performance.Healthcare: A healthcare organization may use capacity management to ensure that its facilities, staff, and equipment are being used efficiently to meet patient demand. The organization may also use capacity management to monitor patient flow and adjust staffing levels to ensure that patients receive the care they need in a timely and efficient manner.Logistics: A logistics company may use capacity management to optimize the utilization of its vehicles, drivers, and warehouses, ensuring that it has the capacity to meet customer demand and deliver goods in a timely and cost-effective manner.An analysis of an organization's resources, including people, equipment, and technology, to identify any constraints or bottlenecks that may be affecting production efficiency.Resource assessment is the process of analyzing an organization's resources, including people, equipment, and technology, to identify any constraints or bottlenecks that may be affecting production efficiency. This is a critical step in capacity management, as it helps organizations understand their current resource utilization and identify areas where improvements can be made.During the resource assessment, organizations typically gather data on the utilization of their resources, such as the amount of time a machine is being used, the number of employees available, and the amount of storage capacity available. This information is used to identify any constraints or bottlenecks in the production process, such as machines that are consistently underutilized or employees who are overworked.The resource assessment is typically done on a regular basis, allowing organizations to identify trends and make changes to the production process to improve resource utilization and increase efficiency.By performing a resource assessment, organizations can gain a better understanding of their resource utilization and identify opportunities for improvement, helping to ensure that they have the capacity to meet customer demand and remain competitive in the marketplace.Capacity planning is the process of forecasting future resource needs and determining the strategies and resources required to meet them. This is an important component of capacity management, as it helps organizations prepare for future growth and changing customer demands.Capacity planning typically begins with the identification of the organization's future resource needs, including the number of employees required, the amount of equipment needed, and the technical resources required. This information is used to develop a capacity plan, which outlines the strategies and resources needed to meet the organization's future production goals.The capacity plan is used to guide decision-making and resource allocation, helping to ensure that the organization has the capacity to meet customer demand and remain competitive in the marketplace.Capacity planning also helps organizations identify any potential constraints or bottlenecks in the production process and take steps to eliminate them. For example, if the capacity plan indicates a need for additional storage space, the organization can take steps to acquire or build additional storage facilities.By performing regular capacity planning, organizations can ensure that they have the resources they need to meet future demands, remain competitive in the marketplace, and achieve their production goals.The design of the production process to optimize the use of resources and eliminate any constraints or bottlenecks.Capacity design is the process of designing the production process to optimize the use of resources and eliminate any constraints or bottlenecks. This is an important component of capacity management, as it helps organizations ensure that their production process is efficient and effective and that they have the capacity to meet customer demand.During the capacity design process, organizations typically analyze the production process to identify any bottlenecks or constraints that are affecting production efficiency. For example, a machine may be consistently underutilized, or employees may be working inefficiently due to a lack of training.Once these bottlenecks or constraints have been identified, the organization can take steps to optimize the production process, such as modifying the machine design or providing additional training to employees. This helps to ensure that resources are being used effectively and efficiently and that the organization has the capacity to meet customer demand.Capacity design also includes the design of new or modified production processes, such as the introduction of new technology or the addition of new production lines. The capacity design process is an important aspect of capacity management, as it helps organizations ensure that they have the capacity to meet customer demand and remain competitive in the marketplace.Continuous monitoring of the utilization of resources and assessment of their effectiveness in meeting production goals.Resource monitoring is the process of tracking and monitoring the use of resources in real time, including people, equipment, and technology. This is a critical component of capacity management, as it helps organizations understand the utilization of their resources and identify areas where improvements can be made.Resource monitoring typically involves the use of software tools and systems to track the utilization of resources in real-time. This information is used to identify any constraints or bottlenecks in the production process, such as machines that are consistently underutilized or employees who are overworked.By monitoring resources in real time, organizations can quickly identify and resolve any issues that may be affecting production efficiency. For example, if a machine is down or not functioning properly, the organization can take steps to resolve the issue and get the machine back up and running as quickly as possible.Resource monitoring is typically performed on a regular basis, allowing organizations to identify trends and make changes to the production process to improve resource utilization and increase efficiency.By performing resource monitoring, organizations can ensure that they have the capacity to meet customer demand, remain competitive in the marketplace, and achieve their production goals.The continuous improvement of the production process to improve resource utilization and increase efficiency.Performance optimization is the process of improving the efficiency and effectiveness of the production process by making changes to the way resources are used. This is an important component of capacity management, as it helps organizations ensure that they have the capacity to meet customer demand and remain competitive in the marketplace.Performance optimization can involve a range of activities, such as reducing waste, improving resource utilization, and making changes to the production process to improve efficiency. For example, an organization may identify a bottleneck in the production process and take steps to eliminate it, such as modifying the machine design or providing additional training to employees.Performance optimization can also involve the introduction of new technology or the automation of manual processes, which can help to increase efficiency and improve resource utilization.The performance optimization process is an ongoing process, and organizations typically perform regular assessments and make changes to the production process on an ongoing basis. This helps to ensure that the organization remains competitive in the marketplace and has the capacity to meet customer demand.By performing performance optimization, organizations can ensure that they are using their resources effectively and efficiently, and that they have the capacity to meet customer demand and achieve their production goals.Regular evaluation of the capacity management process and the identification of opportunities for improvement.Capacity evaluation is the process of assessing the capacity of the production process and evaluating the efficiency and effectiveness of resource utilization. This is an important component of capacity management, as it helps organizations understand the utilization of their resources and identify areas where improvements can be made.Capacity evaluation typically involves the collection and analysis of data on resource utilization, such as the utilization of machines, the number of employees needed to meet production goals, and the utilization of technology resources. This data is used to determine if the production process is operating at peak efficiency and effectiveness.Capacity evaluation also involves the identification of any constraints or bottlenecks in the production process, and the development of strategies to resolve these issues. For example, if the evaluation indicates that a machine is consistently underutilized, the organization may take steps to modify the machine design or provide additional training to employees to improve its utilization.The capacity evaluation process is typically performed on a regular basis, allowing organizations to track changes in resource utilization over time and make changes to the production process as needed.By performing capacity evaluation, organizations can ensure that they are using their resources effectively and efficiently, and that they have the capacity to meet customer demand and achieve their production goals.Useful Links:The ability to respond to changes in customer demand and market conditions, adapting the capacity management process accordingly.Adaptation refers to the process of adjusting the production process to accommodate changes in customer demand or the marketplace. This is an important component of capacity management, as it helps organizations ensure that they have the capacity to meet customer demand and remain competitive in the marketplace.Adaptation may involve changes to the production process, such as increasing or reducing the use of certain resources, or modifying the design of the production process to accommodate changes in customer demand. For example, if customer demand increases, the organization may need to add additional production lines or hire additional employees to meet the increased demand.Adaptation also involves the ability to quickly respond to changes in the marketplace, such as changes in customer demand, changes in technology, or changes in the competitive landscape. By being able to quickly adapt to changes in the marketplace, organizations can remain competitive and have the capacity to meet customer demand.Adaptation is an ongoing process, and organizations typically perform regular assessments of the production process and make changes as needed to accommodate changes in customer demand and the marketplace.By performing adaptation, organizations can ensure that they have the capacity to meet customer demand and remain competitive in the marketplace and that they are using their resources effectively and efficiently to achieve their production goals.The management of resources ensures that they are being used efficiently and effectively and that the organization has the capacity to meet customer demand.Resource allocation is the process of determining how resources, such as people, machines, and technology, will be used to achieve the production goals of an organization. This is a critical component of capacity management, as it helps organizations ensure that they have the capacity to meet customer demand and remain competitive in the marketplace.Resource allocation typically involves the assignment of resources to specific tasks or projects, taking into account factors such as availability, skill level, and utilization. For example, an organization may allocate specific machines to specific tasks based on their capabilities and utilization rates.Resource allocation also involves the allocation of budget and staffing levels, determining the number of employees needed to meet production goals and the resources available for the purchase of new equipment or technology.The resource allocation process is typically performed on a regular basis, allowing organizations to track changes in resource utilization and make changes to the resource allocation as needed.By performing resource allocation, organizations can ensure that they have the capacity to meet customer demand, remain competitive in the marketplace, and achieve their production goals, while also making the best use of their resources.The management of resource utilization to ensure that resources are being used efficiently and effectively to meet production goals.Utilization management is the process of monitoring the utilization of resources, such as machines, employees, and technology, to ensure that they are being used effectively and efficiently. This is an important component of capacity management, as it helps organizations ensure that they have the capacity to meet customer demand and remain competitive in the marketplace.Utilization management involves the collection and analysis of data on resource utilization, including the utilization of machines, the number of employees needed to meet production goals, and the utilization of technology resources. This data is used to determine if resources are being used effectively and efficiently, and to identify areas where improvements can be made.For example, if the utilization data indicates that a machine is consistently underutilized, the organization may take steps to modify the machine design or provide additional training to employees to improve its utilization. Utilization management also involves the development of strategies to resolve any constraints or bottlenecks in the production process.The utilization management process is typically performed on a regular basis, allowing organizations to track changes in resource utilization and make changes to the production process as needed.By performing utilization management, organizations can ensure that they are using their resources effectively and efficiently, and that they have the capacity to meet customer demand and achieve their production goals.The advantages and Disadvantages of capacity management are as follows:Advantages:Improved customer satisfaction: By ensuring that the production process has the capacity to meet customer demand, organizations can improve customer satisfaction and increase customer loyalty.Increased efficiency: By monitoring and optimizing the utilization of resources, organizations can increase the efficiency of their production process, reducing waste and increasing productivity.Better use of resources: By making the best use of available resources, organizations can reduce costs and increase profitability.Improved competitiveness: By having the capacity to meet customer demand, organizations can remain competitive in the marketplace and increase their market share.Improved planning: Capacity management provides a framework for planning and decision-making, allowing organizations to make informed decisions about resource utilization and production goals.Disadvantages:Resource constraints: Capacity management may be limited by the availability of resources, such as machines, employees, and technology, which can limit the capacity of the production process.Increased cost: Implementing a capacity management program can be expensive, as it requires the acquisition of new technology, training, and the development of new processes and procedures.Resistance to change: Employees may resist changes to the production process, which can slow the implementation of capacity management initiatives.Data management challenges: Collecting and analyzing data on resource utilization can be challenging, requiring the development of new processes and procedures for data collection and analysis.Market volatility: Changes in customer demand or the marketplace can impact the capacity of the production process, making it difficult for organizations to maintain the capacity they need to meet customer demand.Also Read:-FAQ:-The purpose of capacity management is to ensure that an organization has the capacity to meet customer demand and achieve its production goals, by monitoring and optimizing the utilization of resources such as machines, employees, and technology.The components of capacity management include resource assessment, capacity planning, capacity design, resource monitoring, performance optimization, capacity evaluation, adaptation, resource allocation, and utilization management.The benefits of capacity management include improved customer satisfaction, increased efficiency, better use of resources, improved competitiveness, and improved planning.The challenges of capacity management include resource constraints, increased cost, resistance to change, data management challenges, and market volatilityCapacity management should be performed on a regular basis, typically on a monthly or quarterly basis, to ensure that the production process has the capacity to meet customer demand and achieve production goals.Capacity management is typically the responsibility of the operations or production department, although it may also involve other departments, such as finance, human resources, and information technology.The tools and technology used in capacity management include data analysis software, simulation software, production planning software, and resource utilization tracking software Capacity of an organization depends on several factors. It is a variable quantity that may change due to changing conditions and external influences, like seasonal demands, industry changes, and other macroscopic events of the surroundings. But an ideal company must remain quick enough to constantly meet the expectations of the market. It is important for the organization to implement capacity management, meet the demand-supply inventory of the market. It can be achieved by several modifications and adjustments. In this blog, we will study the details about capacity management. Also Read | Business Process Management What is Capacity Management? Capacity management is defined as the act of ensuring maximum potential activity of businesses. It focuses on greater production output all the time, under each and every condition. It is basically defined as the business benefits a company can achieve, produce, or sell within a given time period. The process of capacity management includes a wide variety of planning actions. These actions ensure that a business infrastructure has adequate resources to maximize its potential activities. It also focuses on guarantee production in any organization under any condition. The theory and action plans of capacity management consists of planning, IT monitoring, and information related to IT and technology management. The plan laid capacity to handle data processing requirements across different life cycles. The major goal of capacity planning management is to balance costs incurred against resources required. The procedure of capacity management primarily deals with the performance, memory, physical space, operational, and development environment. It includes the development of all aspects of businesses for example, human resources, hardware, networking equipment, software and peripherals. The capacity management helps to compare the available resources within the time deadline. It analyzes the capacity and gives you an overview of your business. Such as if the composition of human capital in a company matches with the actual needs of the organization or not. Capacity management helps in analyzing resource availability and make it easier for the companies to check their availability and skills for the upcoming projects. This analysis also assists the project managers and directors to take effective decisions for hiring new people and projects. It also helps in managing the demand and supply of the resources. Objectives of Capacity Management Capacity management is the art of capacity management that emphasizes well utilization of resources. The objective of capacity management is to maximize the profits for businesses within the given limits. Capacity management planning differs from organization to organization. It is different as per the business types. The common and shared objective of capacity management are as follows: Capacity management planning helps to identify the capacity requirements. The planning helps to meet current and future projected workloads. Capacity management helps in the development and maintaining of businesses. Capacity management ensures that the performance goals of an organization are met on time. Capacity management ensures the process of business within the budget. Capacity management monitors the capacity continuously to bind the service level management. Capacity management assists in diagnosing and resolving incidents occurred during business procedures. Capacity management helps in analyzing the impact of variances on capacity. Capacity management takes proactive measures to improve performance. Capacity management helps in cost optimization during the whole process. Also Read | Cost Benefit Analysis Examples of Capacity Management Different organizations have different criteria for capacity management. The capacity of a business depends on the type of the products, services, and duties delivered by the organization. The examples of capacity management may include the following cases. A coffee café that can produce 500 cups of coffee per day. A call center that can handle 5000 calls per week. A pharmaceutical production line that can assemble 30 lakhs capsules per month. A restaurant that can accommodate 100 family dinners per night. A car service system that can repair 10 cars per hour. Let us consider a broad example of a television manufacturer. A TV producing company always needs to make sure that it is able to meet the demand of the market. Now the company will hire a special team to read and realize the market requirements. The special team analysis that IPL is going to begin in the coming month, so the demand for television in the market will be apparently higher than usual. It also released data that HD television with prime quality will be more than the usual televisions. Now, the next step of the organization is to check its capacity, if it is sufficient enough to meet the market requirements or not. The organization analyzes that it doesn't have sufficient requirements to handle the demand. Also, the fact that the market demanded is expected to go down as soon as the IPL season ends. So, now applying the principles and procedures of capacity management the company would think of leasing employees and machines rather than purchasing or buying for permanent. Once the company leases machines and employs manpower for the purpose. It will start producing fresh new HDR television sets for the market. This is how the process of capacity management works in real life, and the way by which industries and organizations manage their capacity to meet the supply and demand chain of the market. Also Read | Business Process Notation Process and Procedure of Capacity Management Capacity management tools help in measuring the volumes, speeds and efficiencies of the movement of data. Data journey helps in the data's journey through the IT infrastructure. Capacity management helps in the process of organization of applications. Capacity management enables the organization to examine the operations of all hardware and software in the environment. It also captures the critical information related to data flow. The capacity management program has measurement and analysis tools that must enable it to observe the individual performances of IT assets. The capacity management includes the elements such as servers, end-user devices, storage systems, storage network devices, cloud services, and network communication devices. The capacity management can be achieved via software, hardware or by manual means. Capacity management relies on the interception of data movement metrics. The first step of capacity management is the emulation programs. Emulsion programs are effective tools for capacity management. The programs mimic the application programs like database management. It ensures its own sets of test data to ensure accurate and consistent results. The second approach of capacity management involves the employment of hardware-based monitoring devices. The capacity management focuses on the network performance and provides comprehensive information. A capacity management process is three step procedure that involves following steps: The first step of capacity management is to estimate a clear detail of the current resource capacity. The organization first needs to prepare a utilization report. The utilization report helps to understand the expected shortages of the business. Thus, helping in maintaining the capacity management strategy for upcoming processes. Based on the purpose or scope of the project. It is essential to make a list of present resources and missing resources. This will help you to determine the kind of team you need to hire for the purpose. Hiring and assigning the team task isn't the only task to do. It is essential to do some smart projects and task prioritization. If you don't make your list first, this might make you miss your capacity. Also Read | What is Cloud Mining? Components of Capacity Management Capacity management provides high-level information on a variety of business components. It assists to gather as much possible information that attempts to correlate the measurements into an application-centric picture. The major categories include processing power, memory, storage capacity and speed for all the intermediate processes for the businesses. Here is the brief introduction to all the components of capacity management: 1. Performance: Performance is the key metric factor in capacity management. It is essential for an organization to detect its bottlenecks. It affects the overall efficiency of businesses. Best performance helps in the upgradation of businesses. 2. Memory: Memory is the other important factor in capacity management. If the memory of the company system isn't stabilized it will slow down the overall process. Insufficient memory is itself the biggest bottleneck for the organization. 3. Physical space: Physical space is commonly associated with the focus to generate storage space for application and data. Also Read | Business Process Discovery Factors that weaken the Capacity Management and Project Delivery There are several factors that affect the organization performance and play a vital role in defining the capacity management of the network or basically, website business. The primary list includes: 1. Delay: Sometimes the delivery of a project or network takes too long to deliver. It takes a whole time for data transmission as several factors are responsible for this. A simple data is broken into several parts such as frames, pockets and segments. While reliable protocols allow receivers to get a notification after delivery of each data. Thus, making it possible to measure the round-trip time. 2. Reception order: Some real-time protocols, for consideration voice and mp4 require packets to arrive in the correct order to be processed. If packets arrive out-of-order, it may drop the data transmission. 3. Packet loss: Packet loss may occur due to errors in overloading of the intermediate network. Packet loss can also occur due to intentional discarding of the traffic to enforce a particular service level. 4. Retransmission: Retransmission occurs when packets are lost in a reliable network. Retransmission faces two delays, the first arises from re-sending the data and the second is the result of data waiting. 5. Throughput: Throughput is the amount of traffic, network can carry. It affects the project delivery of the businesses. Also Read | Business Process Mapping Types of Capacity Management Planning Types of Capacity Management Planning There exist three types of capacity management planning, which serve the different needs of different organizations. It is beneficial for both short-term and long-term resources management: Product capacity planning ensures the adequate product and services ready for the serving and delivery proposes. Workforce capacity planning helps in estimating the efficient number of team members and hours required to complete the task. Workforce capacity also helps in identifying the ideal time to start recruiting new employees and onboarding process details. Tool capacity planning ensures the supply of adequate equipment to complete the jobs, assembly line components, and other requirements for the delivery of the products. Advantages of Capacity Management The advantages of capacity management are as follows: Improvement of performance. Reduction of consumption. Fine tuning of applications and other components of businesses. Elimination of reductant work. Consistent monitoring of business plans. Improvement of organizational and IT services. Also Read | Examples of Information Technology There are several providers available in the market and on the internet that provide capacity management plans and processes to the organization. All you need is to identify the goals and needs of your company, and then work in the required direction to implement full capacity management. Capacity management is a strategy utilized by businesses to make the best use of production efficiency with respect to the demand for a service or a product. The eventual goal of capacity management is to:Identify and remove any bottlenecks that hinder the manufacturing process, or service delivery process.Increase the speed of production by optimizing resources at hand, eliminating the unproductive time, and other constraints that may negatively affect capacity.Capacity management helps companies conquer challenges that arise when they need to meet customer demands—be it short- or mid-term. It also helps manage the supply chain operations and develop organizational plans for the future.Organizations need to review how much of their resources are available to make sure it reaches the production output during a given period. Manufacturing, retail, service, and information technology heavily use capacity management.Key Objectives of Capacity ManagementIn a nutshell, here are the key objectives of proper capacity management:Recognize capacity requirements to fulfill projected workloads, both current and future.Create and sustain a solid capacity management plan.Ensure that performance goals are duly met within the right time frame and budget.Consistently monitor capacity to assist the service level management.Support in determining and solving incidents.Examine the impact of variation on capacity and take proper measures to better performance where it is more cost-efficient.Why is Capacity Management Important?Capacity management is an important part of an organization, but why? Capacity management definition refers to the strategy used by businesses to manage production output in response to market demand, ensuring optimal resource utilization and the identification and elimination of bottlenecks to achieve maximum profit. Here are a few points to discuss the same:Cost Evaluation: Capacity management helps organizations improve their ability to evaluate costs, particularly during growth seasons or recessions. It helps in identifying sudden shifts in prices and helps them act as per the situation.Production Efficiency: Schedule production cycles ahead of time and optimize production efficiency.Cost Reduction: Reduce the costs in general of doing business.Inventory Management: Helps in the management of inventory better and dealing with issues within the supply chain.Resource Allocation: Assign human and material resources in a better way.Scaling: Most importantly, capacity management helps in the scaling of the business. It provides a deep analysis of how to operate before expanding the business.The Capacity Management ProcessHere's what a typical capacity management process may look like. A proper capacity management process ensures accurate data entry, effective management of capacity, and overall organizational efficiency and productivity. However, these processes differ from organization to organization.1. Identify and Breakdown Future PlansForecasts and opportunity pipelines help understand what kind of demand would arise in the upcoming seasons. For example, more people need to be hired, more machinery is needed, or the previous one needs repairs or maintenance.2. Understand Customer DemandsMarket trends and customer demands are ever-evolving. This helps in creating an opportunity pipeline. It is crucial to understand if any unpredicted events or seasonal factors affect the demand side.3. Evaluate Existing ResourcesBefore increasing production with respect to the newly devised plan, the organization must evaluate if the existing resource capacity or infrastructure can manage that production. If it cannot, then new machinery, devices, or equipment may need to be procured or leased.4. Implement Resource and Capacity PlanningOnce a proper plan is in place, it's time to implement and execute it. If the need is to introduce more devices or machinery to grow production, then the plan should be to purchase new machinery/devices, install them, kickstart the work, and fulfill the additional requirements on time.5. Consistent MonitoringLastly, if you don't monitor and review the production capacity on a continuous basis, you might miss important factors. Furthermore, just like any other process, there is always room for improvement.Capacity Management vs. Capacity PlanningOftentimes, there is confusion between capacity management and capacity planning. While they are similar in certain aspects, they are quite different too. Capacity management is broad in terms, whereas capacity planning can be referred to as the subset of capacity management. However, the end goal of both is to ensure that there is the right amount of capacity at the right time to meet the demands.As per Mike Wise, author of the Microsoft DataDriven blog, "one big difference that sets apart capacity planning from capacity management is that capacity planning has a 'throwaway' quality. That is to say, that capacity planning is something that is done upfront. It is the needs intake and assessment, but capacity management is the entire lifecycle of monitoring, collecting data, analyzing data, optimizing infrastructure, and landing back on monitoring again."Digital organizations that plan to put forth a winning capacity planning and management strategy should think of these terms as separate entities.Best Practices to Improve Capacity ManagementBefore you dive into capacity management, it is important to prioritize it and give it your undivided attention. Effective capacity management includes the following components:Historical DataRefer back to previous problems that occurred in capacity management and look for any similar patterns. Maybe there was a specific month or a season when managing capacity was difficult?Resource FactorsConsider how many people have left since the last capacity management cycle, and assess how that would affect a period that would be loaded with work. You must also keep track of people you hired externally on a short-term basis.Effectively managing human resources is crucial for assigning tasks based on team members' strengths, preventing burnout, meeting project deadlines, and retaining employees and clients.Operational FactorsExamine and manage any operational factors that may influence how the work capacity is managed. For example, implementing cloud contact center software can enhance the efficiency of customer service operations by providing features like automatic call routing, real-time analytics, and integration with other communication channels.Assign Capacity as Per Business PrioritiesThis lets the teams concentrate on what's important and focus on projects with a greater potential for ROI by implementing effective business capacity management.Monitor Actual Business DemandIt's essential to know what demand has been placed on the teams. From clients who purchase the services to internal projects that unlock business growth. Solid knowledge of the demand ensures that the supply of the resources remains at adequate levels.Strategize for Different SituationsWhen it comes to work, there are always multiple variables at play. It is essential to understand what these variants are—and how they can impact the capacity. Doing so ensures that the solution to such scenarios is the most efficient.Plan for DeviationsAs we know capacity planning is mostly based on estimations and forecasts. Unfortunately, forecasts are not always accurate. That is why capacity management planning would need recurring tweaks.Capacity management is a broad concept and consists of diverse terms that you may or may not be aware of. We will define a component, capacity, capacity report, Capacity Management Information System (CMIS), performance, capacity managers, and capacity plan.ComponentAs per the CIPS Institute "A component is a fundamental structure of a particular service, an essential part of a service." For instance, a database is the 'component' of a server. Components are substantial, so they need to be purchased, built, maintained, and monitored.CapacityThe definition of capacity as per the CIPS Institute is that it "represents the available resources that can be leveraged to meet a certain level of demand." To illustrate with an example, in a restaurant, the capacity is the number of staff available, the number of tables and chairs available, and the time frame when the restaurant is open.Capacity PlanBasically, defining scenarios for expected demands. For example, resources required in a certain time frame. Capacity plans help businesses deliver the right customer service.Capacity ReportA document that includes data related to the service provided, resources deployed, and the overall team performance. Capacity reports help managers take the right decisions.A virtual repository to gather and store data related to capacity.PerformanceIn capacity management, performance management is a metric that reflects how fast a system can respond to requests.Challenges Faced During Capacity ManagementCapacity management is an essential task within a workspace. Efficient capacity management is crucial for meeting demand while optimizing resources and project management. But not an easy one. As per Forbes, below are common challenges faced during the process of capacity management. Let's explore them in detail.Data ChallengeOn a daily basis, capacity planners need to tackle a truckload of information that needs to be added to project spreadsheets, mostly manually. For a seamless capacity management process, the data added needs to be accurate and mentioned in a proper format.Complexity ChallengeA complexity challenge is quite similar to a data challenge. Since capacity planning involves managers working with countless calculations and complex formulas, mistakes are bound to occur. For example, adding inaccurate data to the spreadsheet. Unfortunately, such occurrences can deter the entire process.Communication ChallengesCommunication is the cornerstone of any successful company. Lack of communication or, worse, inadequate communication can lead to a sea of problems. In order to steer clear of such scenarios, it is crucial that all employees that are part of the capacity management process exchange information on a regular basis.Strategies for Capacity ManagementManagers across the globe have come up with a few capacity management strategies to attain better results. Take a look at these extensively used capacity management strategies:Lag StrategyIn this conservative and reactive strategy, a manager first understands the capacity, and then waits until there is a proper and steady surge in demand. After this, the manager increases the production at a specific level that is enough to meet the market needs at that moment.Lead StrategyWhile the lag strategy is more subtle and ridden with fewer risks, the lead strategy is almost the opposite of it. In this case, the company increases the capacity of production even before there is a surge in demand.Dynamic StrategyDynamic strategy is driven by forecasts and mainly relies on current market trends. Here, the manager takes the sales data and current trends, and analyses them together to make tweaks in the production.Match StrategyMatch strategy is a medley of lead and lag strategies. Here, the company increases its capacity after examining the current market demands. As and when it is apparent that there will be a rise in demand, the company increases production incrementally.Capacity Management ExamplesCapacity management is used by software companies, finance operation teams, creative agencies, and product teams alike to maximize their production output and meet demand efficiently. Let's take the example of a TV manufacturer. There are two things in place for a TV manufacturer:They need to ensure that they can meet the demands of consumers all year round with the resources available.Recently the company forecasted that the demand for televisions may surge because the World Cup starts in 8 months.Since there will be a surge in demand, the managers of the company need to understand the approximate number of TV sets that need to be sold to meet the growing demand. An analysis like this may reflect that they would need more resources and manpower to handle the growing demand, but it is also forecasted that the demand might decrease as soon as the World Cup comes to an end.So, here the company may want to rather lease the machines or work with different contractors for that period of time, instead of buying new machines or hiring new people. As soon as the lease and manpower are in place, production can commence. However, the company will have to start it at least 2-3 months before the World Cup starts. This will ensure that the TV sets have reached the retail channels and are available exactly when there is a rise in demand.Few More Examples:A creative agency can deliver 700 designs per week.A bakery can bake 80 pies per day.A car company line can assemble 200 cars per month.ConclusionCapacity management is more than just a strategic process—it's a vital practice that ensures businesses can meet demands efficiently and sustainably. By effectively managing capacity, organizations can optimize their resources, reduce costs, and maintain high service levels even during periods of fluctuating demand. It involves a continuous cycle of planning, monitoring, and adapting to both internal and external changes. As businesses strive to scale and respond to market dynamics, a robust capacity management strategy will be instrumental in achieving operational excellence and sustaining growth. Embracing best practices and leveraging strategies tailored to specific needs will empower organizations to navigate challenges and seize opportunities, thereby enhancing overall performance and competitiveness. A manufacturer wants to determine the number of machines and workers that are required to produce products on a certain day.What do you think can help them plan and manage their resources, tasks, time, and manpower?It is here that capacity planning can be implemented and achieve great profits, reduce overspending, and have happy customers. It plays a major role in the success of growing industries.This blog post will help you understand how to plan for how much work your business can do. In addition, you will learn capacity planning strategies, goals, process steps, types, best practices, tools, systems, and who is involved in capacity planning.Evaluate Capacity Planning using our Capacity Planning Calculator.Capacity planning is the process of determining the production capacity needed by an organization to meet changing demands for its products or services.It involves assessing current capacity, forecasting future demand, and planning for the necessary resources to ensure that the organization can efficiently and effectively meet those demands.This includes managing resources such as labor, equipment, and facilities to avo

related to growth or anything else — you should always be willing and able to adapt!It may seem like an odd part of a process that requires so much focus and attention, but everyone deserves recognition after doing such hard work.There are three types of capacity planning.Workforce capacity planning focuses on managing your human resources to ensure you have the necessary workforce to meet demand effectively. It helps you determine how far in advance to initiate hiring or downsizing, ensuring you have the right number of employees to complete tasks efficiently.Product capacity planning ensures you have the production capability to meet varying product demands. It allows you to adjust production levels by securing the necessary materials and labor to align with market demand fluctuations.In this way, it helps you maintain a balance between supply and demand, optimizing resources and minimizing waste.This capacity planning ensures your business has all the essential tools, such as machinery, vehicles, assembly line components, and other resources, required to produce and deliver your products or services promptly and efficiently.Capacity planningResource planningCapacity planning is a strategic way of finding the required production capacity for the organization to meet changing demands for its products. Resource planning is a specific procedure assigning resources (like people, equipment, and materials) to project activities based on their availability and the needs of the project.The objective is to ensure that there are enough resources (like equipment, space, and labor) available to produce the required amount of goods or services.The main objective is to ensure that the right resources are available at the right time and place to complete project tasks efficiently.It focuses on the overall capability of the production system and the overall process of the organization.It focuses on optimizing the utilization of resources within the constraints of a project.It involves forecasting demand, determining the production capacity needed, and planning for future capacity requirements. It involves assigning specific resources to tasks, managing resource availability, and resolving conflicts over resource allocation.It often has a longer-term perspective, looking at future demand and preparing for it months or even years in advance.It typically has a shorter-term perspective, focusing on the needs of current or upcoming projects.Commonly used in manufacturing and service industries to balance capacity with demand.Commonly used in project management across various industries to ensure project deadlines are met and resources are used efficiently.Businesses can use various tools and systems for capacity planning. One standard tool is Microsoft Excel, creating graphs and tracking data. Another tool that planners can use is Microsoft Projects. Project managers can use this software to create timelines and track resources as project management.Other capacity planning tools that project managers can use include:Capacity Planning ToolkitPerformance Scorecard BuilderCapacity Planning TemplateCapacity Planning WorksheetCapacity Planning SpreadsheetPerformance Scorecard TemplatePortfolio Management ToolkitProject Resource Planner (for project management and resource planning)The company can use several third-party software products for capacity planning. Here is an example of some common ones:IBM's Capacity Advisor is a tool used to help with capacity planning. The Capacity Advisor can predict subsequent requirements and help prevent capacity issues. The Capacity Advisor also helps with the identification of excess capacity.IBM InfoSphere Optim Solutions Enabler Capacity Manager is essential for capacity planning. It helps you to understand and optimize your resource utilization. The Capacity Manager feature provides information on the following:Present CapacityMeet DemandResource ManagementThe Capacity Manager also helps you identify and plan for future requirements.CA Technologies Workload Estimator is a tool that helps you plan for the future capacity needs of your enterprise. The tool uses historical data to make predictions, giving you a realistic estimate of your capacity needs.The Workload Estimator considers workload growth, the number of users, and resource utilization.Dell ClearApp Enterprise Edition helps organizations manage their resources and capacity. The software can optimize the performance of applications by identifying and resolving potential resource contention.Dell ClearApp also provides performance and capacity planning for virtualized and cloud-based environments. Dell ClearApp Enterprise Edition is a part of Dell's Integrated Cloud Application and Infrastructure Management (ICAM) solution.The list goes on and on, though! But, again, this is because so many different tools are available to help with capacity and project management.This makes it easier to take advantage of the benefits of effective capacity planning strategies! However, it's important to note that there is no "one size fits all" solution for capacity planning.The best approach is to identify the tools that will work best for your specific situation and then use them to their fullest potential.The roles involved in capacity planning can vary depending on the organization but typically include members from different enterprise areas, such as human resources, information technology, marketing, and manufacturing.It is strategic planning that a company should regularly undertake to ensure the organization can meet its current and future demands.Roles involved in it are :Responsible for the collection and analysis of information, as well as for creating an actionable capacity plan. They work closely with business managers to understand their requirements and translate those into a technical context.This includes identifying future demand patterns based on industry trends, sales forecasts, or any other factor that can help predict changes in resource usage (e.g., product growth, new initiatives, workforce increase).The capacity planner gathers information throughout the organization to give decision-makers insight into current performance levels and what might happen in the future.An Operations Staff Member is an individual involved in the business's day-to-day operations. They are responsible for ensuring that resources are available when needed and those production goals are met.The individual is ultimately responsible for the success or failure of the business unit/department. Therefore, they must understand their capacity requirements to make informed decisions about future growth or initiatives.They are involved in supporting and managing the technology infrastructure within the organization. This includes evaluating current systems, recommending upgrades/changes, and working with vendors to procure necessary hardware/software.In some cases, they may also be involved in designing and building new applications or modifying existing ones to meet organizational needs better.Part of the organization that is responsible for marketing and brand development. They understand current demand patterns, evaluate how new initiatives may impact future capacity needs, etc.They guide hiring plans/targets, training requirements, etc. Therefore, they need to be consulted when assessing future resource demands.Capacity planning allows businesses to forecast future production needs and ensure they have the resources to meet demand.It helps businesses optimize their resources and avoid costly overages or shortages.It enables businesses to plan for future growth and expansion.Effective capacity planning can help businesses manage their current resources more efficiently.It can help businesses react quickly to changes in demand.Resource management software can automate much of the capacity planning process, making it easier and faster for businesses to accurately picture their current and future needs.Among many best practices, we are listing effective practices.Ensure you have a clear understanding of your system requirements. That includes understanding your desired uptime, peak loads, anticipated growth, etc.Work with vendors to understand their capabilities and limitations. Make sure you know what they can provide regarding resources and assistance.Run load tests on your systems to get a realistic picture of performance under real-world conditions. That will help you identify potential bottlenecks and capacity issues before they cause problems in production.Utilize monitoring tools to track key performance indicators (KPIs) in your production environments.The production capacity is the maximum number of units your company can produce in a given period. It includes all resources, including labor hours and machines.To determine your production capacity, you must first understand your available resources. This includes understanding the amount of space you have, the number of workers you have, and the amount of equipment you have.The steps are as follows.Assess Resources:Count your workers.Measure the available work hours.Evaluate your equipment.Calculate Time:Determine how long it takes to produce one unit of your product.Compute Capacity:Multiply the number of workers by the available work hours.Divide this total by the time it takes to produce one unit.Example Calculation:Workers: 5Work Hours: 8 hours per dayProduction Time: 2 hours per unitCalculation:Production Capacity = (5 workers × 8 hours) divided by 2 hours per unit = 20 units per dayYou can calculate your Production capacity using our Online Production capacity calculatorNote: Production capacity is flexible. It can change based on product demand. If demand increases, you might need more workers or longer hours to boost capacity.One of the most critical challenges in capacity planning is determining when and how much capacity should be increased.Increasing capacity too soon can lead to unnecessary costs, while doing it too late can result in lost sales and frustrated customers. So, getting the timing and the amount of capacity expansion right is essential for the success of a business.If capacity planning is not done properly, it can lead to the loss of customers and business opportunities. This happens when a company doesn't have enough capacity to produce what customers want, causing them to look for alternatives.On the other hand, having excess capacity can be a drain on a company's resources. It ties up money and other resources that could be used for more profitable ventures, such as new products or expanding into new markets.When developing a capacity and resource plans, consider several key factors to ensure effectiveness.Assess Current Capacity: Evaluate available resources and how they can meet current and future demands.Strategize for Adjustment: Develop strategies to expand or contract production based on demand. Be mindful that excess capacity can lead to inefficiencies.Utilize Tools and Software: Use appropriate tools and software for accurate capacity planning.Capacity planning is forecasting future business needs and ensuring that resources are available to meet those demands. It ensures that your enterprise has enough resources to meet current and future needs.Capacity management involves a variety of capacity planning strategies, systems, processes, and input from various roles in the organization.By doing strategic planning and considering factors such as production capacity, resource capacity, and impending requirements, you can create an effective capacity plan to help you meet demand now and in the future. , the free encyclopedia that anyone can edit. 109,638 active editors 7,015,641 articles in English Painting of a princess, most likely Pari Khan Khanum Pari Khan Khanum (1548–1578) was a Safavid princess, the daughter of the second Safavid shah, Tahmasp I, and of his Circassian consort, Sultan-Agha Khanum. Pari Khan played a central role in the succession crisis after her father's death in 1576. She thwarted the plans of her brother Haydar Mirza and enthroned her favoured brother, Ismail Mirza, as Ismail II. Instead of gratitude, she received restrictions and house arrest, and may have been behind his death in 1577. She endorsed her brother Mohammad Khodabanda, who was almost blind, expecting to rule behind the scenes, but his wife, Khayr al-Nisa Begum, emerged as a rival and procured her killing. Regarded as the most powerful woman in Safavid history, Pari Khan was able to dominate the ineffective Safavid court in a society that imposed harsh restrictions on high-class women. Praised by her contemporaries for her intelligence, in later chronicles she was portrayed as a villain who murdered two brothers and tried to usurp the throne. (Full article...) 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William Oughtred (d. 1660)Toyohara Kunichika (b. 1835)Cody Rhodes (b. 1985)Chris Gragg (b. 1990) More anniversaries: June 29 June 30 July 1 Archive By email List of days of the year About Michael Schur From 2013 to 2021, 153 episodes over eight seasons of the American police procedural comedy television series Brooklyn Nine-Nine were aired, with five seasons on Fox and three seasons on NBC. The series was created by Dan Goor and Michael Schur (pictured) and follows a team of detectives and a police captain in the 99th Precinct of the New York City Police Department in Brooklyn. The series was ordered by Fox in May 2013. The first season of Brooklyn Nine-Nine aired on Fox from September 17, 2013, to March 25, 2014. On May 13, 2018, Fox canceled the series; the following day, NBC picked up the series. The eighth and final season of Brooklyn Nine-Nine aired from August 12, 2021, through September 16. (Full list...) 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September 25: Battle of Stångebro December 16: Battle of Noryang 1598 by topic Arts and science Architecture Art Literature Music Science Leaders Political entities State leaders Colonial governors Religious leaders Birth and death categories Births – Deaths Establishments and disestablishments categories Establishments – Disestablishments Works category Works vte 1598 in various calendarsGregorian calendar1598MDXCVIIIAb urbe condita2351Armenian calendar1047ԹՎ ՌԽԷAssyrian calendar6348Balinese saka calendar1519–1520Bengali calendar1004–1005Berber calendar2548English Regnal year40 Eliz. 1 – 41 Eliz. 1Buddhist calendar2142Burmese calendar960Byzantine calendar7106–7107Chinese calendar丁酉年 (Fire Rooster)4295 or 4088 — to —戊戌年 (Earth Dog)4296 or 4089Coptic calendar1314–1315Discordian calendar2764Ethiopian calendar1590–1591Hebrew calendar5358–5359Hindu calendars - Vikram Samvat1654–1655 - Shaka Samvat1519–1520 - Kali Yuga4698–4699Holocene calendar11598Igbo calendar598–599Iranian calendar976–977Islamic calendar1006–1007Japanese calendarKeichō 3(慶長３年)Javanese calendar1518–1519Julian calendarGregorian minus 10 daysKorean calendar3931Minguo calendar314 before ROC民前314年Nanakshahi calendar130Thai solar calendar2140–2141Tibetan calendar阴火鸡年(female Fire-Rooster)1724 or 1343 or 571 — to —阳土狗年(male Earth-Dog)1725 or 1344 or 572 1598 (MDXCVIII) was a common year starting on Thursday of the Gregorian calendar and a common year starting on Sunday of the Julian calendar, the 1598th year of the Common Era (CE) and Anno Domini (AD) designations, the 598th year of the 2nd millennium, the 98th year of the 16th century, and the 9th year of the 1590s decade. As of the start of 1598, the Gregorian calendar was 10 days ahead of the Julian calendar, which remained in localized use until 1923. Calendar year January 8 – In Berlin, Joachim Frederich of the House of Hohenzollern becomes the new Elector of Brandenburg upon the death of his father, Johann Georg von Brandenburg. January 17 – The Tsar of the Russian Empire, Feodor I, dies of a sudden illness at the age of 40, leaving no children and bringing an end to the Rurik dynasty. His widow, Irina Godunova, takes action to secure the throne but her rule lasts for only nine days. January 26 – After receiving no support from the Russian nobles, the Tsaritsa Irina Godunova abandons her brief rule as autocrat of Russia, and abdicates in favor of her older brother, Boris Godunov. January 29 – In what is now South Korea, a force of 50,000 troops of the Korean kingdom of Joseon and Chinese Ming dynasty troops begins the siege of Ulsan, a Japanese-controlled castle located in the southwest port of Ulsan on the Sea of Japan. January 30 – In Italy Cesare d'Este moves the capital of the Duchy of Modena and Reggio to the city of Modena, after the Duchy of Ferrara is declared by Pope Clement VIII to be at an end. February 21 – Boris Godunov is elected as the Tsar of Russia by unanimous vote of the parliament of nobles, the Zemsky Sobor. March 19 – Count Adolf von Schwarzenberg of Austria captures the Turkish fortress at Győr, four years after Turkish forces had taken it over.[1] March 20 – The Duchy of Brittany in France is conquered by King Henry IV, who forces the surrender of Philippe Louis de Lorraine-Mercœur, Duke of Brittany. Merceur is then exiled to Hungary. March 23 – The abdication of Sigismund Báthory as Prince of Transylvania (now part of Romania) is accepted by the Transylvanian nobles. Sigismund's cousin, Andrew Báthory, is then elected as the new Prince. April 13 – Edict of Nantes (promulgated April 30): Henry IV of France grants French Hugueнots equal rights with Catholics; this is considered the end of the French Wars of Religion.[2] April 30 – In Mexico, on the day of the Feast of the Ascension, Juan de Oñate, dispatched by the Viceroy of New Spain to expand the Spanish colony's territory, assembles his group on the south side of the Rio Grande and formally claims all territory north of the river (near what is now the U.S. city of El Paso, Texas) as a colony of the Spanish Empire.[3] May 2 – The Peace of Vervins, mediated by Cardinal Alessandro de Medici, ends the war between France and Spain. May 6 – King Philip II of Spain announces that his eldest daughter, Isabella Clara Eugenia, will marry Albert of Austria (at the time a Roman Catholic cardinal and Archbishop of Toledo), and that the two will jointly govern the Habsburg Netherlands (now Belgium). May 13 (Keichō 3, 8th day of the 4th month) – The Mount Asama volcano on the Japanese island of Honshu erupts. May – Tycho Brahe's star catalogue Astronomiæ instauratæ mechanica, listing the positions of 1,004 stars, is published. June 9 – The Principality of Wallachia becomes a vassal state of the Austrian Habsburgs and the Holy Roman Empire, after Michael the Brave (Mihai Pătrașcu, with a regnal name of Michael II) signs an agreement at Prague with Rudolf II, Holy Roman Emperor to receive protection from the Ottoman Empire.[4] June 15 – England invades the Caribbean island of Puerto Rico with a force of 20 ships and 1,700 men led by the Earl of Cumberland.[5] June 27 – The ill-fated Dutch expedition of Jacques Mahu begins as his ship Hoop, along with the ships Liefde, Geloof, Trouwe and Blijde Boodschap, departs from Rotterdam. June 30 – England's forces capture the Castillo San Felipe del Morro, the Spanish fortress defending San Juan, after a 15-day battle.[6] When an epidemic begins taking its toll on the English forces, the Earl of Cumberland decides to withdraw and departs in August. July 10 – John Barrose, a Burgundian fencer who has challenged all comers and killed several, is hanged for murder. Barrose's story is dramatized by playwright Ben Jonson in Every Man in His Humour. July 12 – After fording the Rio Grande near what are now the Mexican city of Juarez and the U.S. city of El Paso, Juan de Oñate proclaims the founding of the colony of Santa Fe de Nuevo Méjico (Santa Fe of New Mexico), with himself as the first Viceroy. Oñate establishes the first capital of the New Mexico viceroyalty at a new village, San Juan de los Caballeros, near the Pueblo Indian city of Ohkay Owingeh, now located in Rio Arriba County, New Mexico. July 13 – A marriage contract is signed as part of the treaty of Saint-Germain-en-Laye between King Henry IV of France and Charles III, Duke of Lorraine, providing for King Henry's niece, Catherine of Bourbon, to marry Duke Charles's son, Henry of Lorraine.[7] July 22 – William Shakespeare registers the rights to his new play, The Merchant of Venice, in the Register of the Stationers Company, under the title The Marchaunt of Venyce or otherwise called The Jewe of Venyce.[8] July 23 – Sigismund III Vasa, King of Poland and Grand Duke of Lithuania, departs from Gdańsk with 80 transports, several warships and exiled members of the Swedish parliament to invade Sweden. The troops land at Kalmar on July 31, and secure its surrender.[9] July – Philosopher Tommaso Campanella moves from Naples to Calabria, where he will be involved in a revolt against the rule of the Spanish viceroy the following year.[10] August 14 – Battle of the Yellow Ford in Ireland: Hugh O'Neill, Earl of Tyrone, gains victory over an English expeditionary force under Henry Bagenal, in the Nine Years' War against English rule. August 16 (Keichō 3, 15th day of the 7th month) – The Council of Five Elders, to serve in Japan as regents after the death of General Hideyoshi, is gathered at Fushimi on orders of Hideyoshi, and the members vow their allegiance to Hideyoshi's son, Hideyori.[11] September 2 – The Mahu expedition from the Dutch Republic arrives at the Cape Verde Islands off of the coast of Africa, and many of the men become fatally ill, including Captain Jacques Mahu, who dies on September 23. September 5 (Keichō 3, 5th day of the 8th month) – With his own death imminent, General Toyotomi Hideyoshi of Japan issues an order directing the Council of Five Elders to bring their children to the Osaka Castle to join Hideyoshi's designated successor, his son Hideyori.[11] September 10 – Prince Michael II of Wallachia begins the siege of Nicopolis (now Nikopol in Bulgaria). September 13 – Philip III becomes the new King of Spain upon the death of his father. September 17 – Second Dutch Expedition to Indonesia: Jacob Corneliszoon van Neck and three ships commanded by him are separated from the Dutch Republic fleet of Admiral Wybrand van Warwyck, and land on a Portuguese-charted island, Ilha do Cisne. Van Neck names the island Mauritius, after Maurice, Prince of Orange. Although Diogo Fernandes Pereira and sailors from Portugal had, in 1507, become the first Europeans to find Mauritius, van Neck's men apparently are the first to sight the dodo, a now extinct bird. September 18 (Keichō 3, 18th day of the 8th month) – General Toyotomi Hideyoshi, who united Japan and became the Chancellor of the Realm, dies after ruling 12 years. He is nominally succeeded by his 5-year-old son, Toyotomi Hideyori, with the regency exercised by the Council of Five Elders. September 25 – Battle of Stångebro at Linköping in Sweden: The Catholic King Sigismund of Sweden and Poland is defeated in his attempt to resume control of Sweden by the Protestant forces of his uncle, Charles. Sigismund is deposed shortly thereafter.[12] October 19 – The Siege of Suncheon, an attempt by Korean and Chinese troops to capture the Japanese-occupied Suncheon Castle.[13] An attempt to lure Japanese General Konishi Yukinaga into an ambush fails when a Korean Army cannon is fired too early and gives away the Korean plan. November 2 – Admiral Yi Sunsin of the Korean Navy attempts to bombard the Suncheon Castle, two days after the joint Chinese and Korean land assault is driven back. Korea and Japan lose 39 ships when a large number of the fleet gets stuck in the shallow waters at low tide and the vessels are attacked by the Japanese. Yi Sunsin calls off the siege the next day.[14] November 10 (11th waxing of Tazaungmon 960 ME) – In what is now the Rakhine State of Myanmar, King Min Razagyi of Arakan and the rebel leader Minye Thihathu begin their assault on Pegu, the remaining portion of the Toungoo Empire in southern Burma.[15] November 15 – Pope Clement VIII authorizes the marriage between Albert of Austria and Isabella Clara Eugenia of Spain. The two will be married on April 18. December 4 – In what is now part of the U.S. state of New Mexico, a dispute breaks out between the Keres people of the Acoma Pueblo (near what is now Albuquerque, New Mexico between the Keres Chief Zutacapan and the Spanish colonial envoy Juan de Zaldívar. After being refused food and shelter for himself and his 16 men, Zaldivar retaliates by pillaging Acoma, and Zutacapan orders a counterattack in which Zaldivar and 11 other men are killed.[16] Spanish troops from the Santa Fe de New Mexico colony retaliate on January 22 by carrying out the Acoma Massacre of 800 people. December 16 (Keichō 3, 19th day of the 11th month, lunar calendar) – Battle of Noryang: An allied Korean and Chinese fleet under Korean Admiral Yi Sun-sin and Chinese Admiral Chen Lin defeats the Japanese navy, ending the Japanese invasions of Korea (1592–98).[17] December 21 – Battle of Curalaba: The revolting Mapuche, led by cacique Pelantaro, inflict a major defeat on Spanish troops in southern Chile; all Spanish cities south of the Bío Bío River eventually fall victim to the Destruction of the Seven Cities by the Mapuches, and all conquest of Mapuche territories by Europeans practically ceases, until the later 19th century Occupation of Araucanía. December 29 – Pope Clement VIII refuses to allow dispensation for Henry of Lorraine, who is Catholic, to marry Catherine of Bourbon, a Protestant Calvinist. King Henry IV of France then intimidates the Catholic Archbishop of Reims into authorizing the marriage.[7] Carnival – Jacopo Peri's Dafne, the earliest known modern opera, is premièred at the Palazzo Corsini, Florence.[18] Pentecost – Calvinist congregations in Zurich introduce music into their services.[19] The Parliament of England passes the Vagabonds Act, that allows transportation of convicts to colonies. Illustrations of Ottoman Turkish and European riflemen, with detailed illustrations of their firearms, appear in Zhao Shizhen's book Shenqipu in this year, during the Ming Dynasty of China. The Spanish establish themselves in El Piñal, a trading port on the coast of China in the Pearl River Delta.[20] Maarten Tromp Gian Lorenzo Bernini January 23 – François Mansart, French architect (d. 1666) March 12 – Guillaume Colletet, French writer (d. 1659) March 13 – Johannes Loccenius, German historian (d. 1677) March 15 – Redemptus of the Cross, Portuguese Carmelite lay brother and martyr (d. 1638) March 25 Ralph Corbie, Irish Jesuit (d. 1644) Robert Trelawney, English politician (d. 1643) March 26 – Sir William Lewis, 1st Baronet, English politician (d. 1677) April 9 – Johann Crüger, German composer of well-known hymns (d. 1662) April 11 – William, Duke of Saxe-Weimar, German nobleman (d. 1662) April 17 – Giovanni Battista Riccioli, Italian astronomer (d. 1671) April 23 – Maarten Tromp, officer and later admiral in the Dutch navy (d. 1653) April 28 – Francis Leigh, 1st Earl of Chichester, English politician (d. 1653) May 23 – Claude Mellan, French painter and engraver (d. 1688) June 4 – Åke Henriksson Tott, Swedish soldier and politician (d. 1640) June 19 – Gilbert Sheldon, Archbishop of Canterbury from 1663 until his death (d. 1677) July 6 – Kirsten Munk, Danish noble, spouse of King Christian IV of Denmark (d. 1658) July 29 – Henricus Regius, Dutch philosopher (d. 1679) July 31 – Alessandro Algardi, Italian high-Baroque sculptor active in Rome (d. 1654) August 7 – Georg Stiernhielm, Swedish civil servant (d. 1672) September 11 – Imre Thurzó, Hungarian noble (d. 1621) September 23 – Eleonora Gonzaga, Holy Roman Empress, married to Ferdinand II, Holy Roman Emperor (d. 1655) September 24 – Giovanni Francesco Busenello, Italian librettist (d. 1659) September 27 – Robert Blake, English admiral (d. 1657) October 14 – Nicolas de Neufville de Villeroy, Marshal of France (d. 1685) October 17 – Jørgen Knudsen Urne, Danish noble (d. 1642) October 19 – Isaac Commelin, Dutch historian (d. 1676) October 27 – Lars Stigzelius, Swedish Lutheran archbishop (d. 1676) November 3 – Christian I, Count Palatine of Birkenfeld-Bischweiler (1600–1654) (d. 1654) November 4 – Ernst Adalbert of Harrach, Austrian Catholic cardinal (d. 1667) November 7 – Francisco de Zurbarán, Spanish painter (d. 1664) November 28 – Hans Nansen, Danish statesman (d. 1667) December 7 – Gian Lorenzo Bernini, Italian sculptor (d. 1680)[21] December 20 – Ottavio Farnese, Italian noble (d. 1643) December 22 – Henri de La Trémoille, French general and noble (d. 1674) December 24 – Margaret Stuart, Scottish princess (d. 1600) Bonaventura Cavalieri, Italian mathematician (d. 1647) Marmaduke Langdale, Royalist in the English Civil War (d. 1661) Baldassarre Longhena, Venetian architect (d. 1682)[22] Jean Nicolet, French explorer (d. 1642) William Strode, English parliamentarian (d. 1645)[23] Guðríður Símonardóttir, Icelandic woman known as a victim of the Turkish abductions (d. 1693) probable Jean-Armand du Peyrer, Comte de Tréville and French officer (d. 1672) Mary Bankes, Royalist in the English Civil War, defender of Corfe Castle (d. 1661) Tsar Feodor I of Russia King Philip II of Spain Toyotomi Hideyoshi Yi Sun-sin January 8 – John George, Elector of Brandenburg, Margrave and Elector of Brandenburg and Duke of Prussia (b. 1525) January 9 – Jasper Heywood, English Jesuit classicist and translator (b. 1553) January 16 – Tsar Feodor I of Russia (b. 1557)[24] February 10 – Anne of Austria, Queen of Poland (b. 1573) March 4 or March 5 – Lucas Maius, Lutheran Reformation pastor, theologian and playwright (b. 1522) March 28 – Michele Bonelli, Italian Catholic cardinal (b. 1541) April 8 – Ludwig Helmbold, German classical singer (b. 1532) April 10 – Jacopo Mazzoni, Italian philosopher (b. 1548) April 19 Hans Fugger, German businessman (b. 1531) Rokkaku Yoshikata, Japanese daimyō (b. 1521) May 3 – Anna Guarini, Italian singer (b. 1563) May 18 – Philipp of Bavaria, German Catholic cardinal (b. 1576) June – Emery Molyneux, English maker of globes and instruments (date of birth unknown) June 28 – Abraham Ortelius, Flemish cartographer and geographer (b. 1527) June 25 – Giacomo Gaggini, Italian artist (b. 1517) August 4 – William Cecil, 1st Baron Burghley, English statesman (b. 1520)[25] August 9 – Andreas Angelus, German pastor, teacher, chronicler of the Mark of Brandenburg (b. 1561) September 13 – Philip II of Spain (b. 1527)[26] September 18 – Toyotomi Hideyoshi, Japanese warlord (b. 1537) October 11 – Joachim Camerarius the Younger, German scientist (b. 1534) November 12 – Johannes Schenck von Grafenberg, German physician (b. 1530) December 6 – Paolo Paruta, Italian historian (b. 1540)[27] December 15 – Philips of Marnix, Lord of Saint-Aldegonde, Dutch writer and statesman (b. 1538)[28] December 16 – Yi Sun-sin, Korean naval leader (b. 1545) December 31 – Heinrich Rantzau, German humanist writer, astrologer, and astrological writer (b. 1526) date unknown Abdulla Khan, Uzbek/Turkoman ruler Teodora Ginés, Dominican musician and composer (b. c. 1530) Nicolas 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McDowell Publications for the Freeborn Family Association. p. 24. Retrieved from " 3One hundred years, from 1401 to 1500 This article needs additional citations for verification. Please help improve this article by adding citations to reliable sources. Unsourced material may be challenged and removed.Find sources: "15th century" – news · newspapers · books · scholar · JSTOR (September 2022) (Learn how and when to remove this message) Millennia 2nd millennium Centuries 14th century 15th century 16th century Timelines 14th century 15th century 16th century State leaders 14th century 15th century 16th century Decades 1400s 1410s 1420s 1430s 1440s 1450s 1460s 1470s 1480s 1490s Categories: Births – Deaths Establishments – Disestablishments vte Ottoman Sultan Mehmed II, victorious at the Ottoman conquest of Constantinople and the fall of the Byzantine Empire. Various historians describe it as the end of the Middle Ages. The Surrender of Granada by Francisco Pradilla Ortiz, 1882: Muhammad XII surrenders to Ferdinand and Isabella Gergio Deluci, Christopher Columbus arrives in the Americas in 1492, 1893 painting. The 15th century was the century which spans the Julian calendar dates from 1 January 1401 (represented by the Roman numerals MCDI) to 31 December 1500 (MD). In Europe, the 15th century includes parts of the Late Middle Ages, the Early Renaissance, and the early modern period. Many technological, social and cultural developments of the 15th century can in retrospect be seen as heralding the "European miracle" of the following centuries. The architectural perspective, and the modern fields which are known today as banking and accounting were founded in Italy. The Hundred Years' War ended with a decisive French victory over the English in the Battle of Castillon. Financial troubles in England following the conflict resulted in the Wars of the Roses, a series of dynastic wars for the throne of

overallocated (above 100% utilization), the extra hours appear in red to notify you of the capacity issuesStep 3: trackMonitor your team’s scheduled hours and compare them to the actual hours spent on the project. Effectively tracking your team’s hours throughout a project’s completion helps you manage capacity better for your future needs, so you won’t run the risk of overspending on resources or overallocating your team members.The Report dashboard in Float lets you compare a project’s scheduled hours with the actual time spent on projects at the client levelPro tip: choose a planning cadence that works for youDepending on the nature of your projects and business requirements, you may need to perform the steps above on a daily, weekly, or monthly basis—or any other time period that makes sense!Global agency Scholz & Friends holds weekly meetings to monitor resource capacity in Float, while consultancy firm Accounts and Legal conducts monthly sessions to check team members’ workloads against their actual capacity. If your team uses the agile methodology and plans work in sprints, this process should ideally happen at bi-weekly intervals.5 capacity management best practices Ensure that your team is balanced, productive, and ready to tackle new challenges with these proven approaches to optimizing capacity management in your organization:1. Track capacity in a visual resource management toolAs you already know, capacity is an absolute beast to manage, especially in a growing or larger company where project scope and allocations change every day. You’re working with many tricky (and changing) variables, like *inhales*:Work hoursTime off (both planned and unplanned)Current and optimal utilization rateSkill sets and strengthsBillable vs. non-billable hoursCurrent and upcoming projectsClient budgetsProject scopeTask dependenciesProject timelines and due datesThat’s why it’s highly recommended that you track it all in one centralized platform. Visualizing capacity in one single space that everyone has access to helps you correctly allocate the right team members to the right tasks.Emily Feliciano, Senior Creative Resource Manager at Atlassian, uses Float to manage her team’s capacityOverly simple lists or complicated, multi-tab spreadsheets make this process ultra-complex and leave room for human error. Acquiring the right resources and team members with the required skill sets and experience might take a long time, so it’s important to make it easy for capacity managers to identify missing skills in time and reduce bottlenecks. The bottom line: when you automate capacity management to some extent, you improve your chances of delivering projects on time, on budget, and within scope.Emily FelicianoSenior Creative Resource Manager at AtlassianOne of my favorite things about Float is that it’s really easy to digest. I work with creatives, and they don’t want to look at an Excel sheet trying to tell a very specific story. Being able to look at the schedule and immediately understand what’s happening, what projects are ongoing, and at what point people are starting to go over capacity under capacity is great, because creatives are very busy.2. Create a capacity planning system to manage projectsAn efficient capacity plan helps you meet capacity requirements by fulfilling short and long-term demands. It involves setting up an efficient system in a dedicated resource management tool (guess which one we recommend? ☺) to track and monitor capacity, so you can prioritize projects and allocate the right people to high-impact tasks and initiatives. A live, always-on view of your resources helps you manage multiple projects simultaneously. It also enables you to determine feasibility, costs, role requirements—and ultimately, profitability.Pro tip: give everyone access to your shared capacity planning scheduleThe capacity and resource planning process should never happen in a silo: your entire team should be involved in the process and have access to relevant data about existing resources and upcoming requirements. For example, using Float, you can save your go-to filters as shared ‘Views’ so you and your team can see what’s important to you, faster. If you’re planning capacity for a 30-person design department that’s part of a 200-person team in Float, create a ‘Design team’ View to revisit in your design capacity planning meetings.3. Proactively forecast resource demandsResource forecasting is the process of predicting upcoming resource demands at the start of a project to help you ensure a project remains on budget. We get it: you’re no clairvoyant—but there are some ways you can see into the future For example, if you work in an agency or professional services business, regularly consult your sales department or project managers about customer demand and find out what upcoming deals are in the pipeline. Or, if your company has the goal of 10x’ing its current revenue, you can safely deduce that more work is on its way—and that probably means it’s time to start planning staffing requests or building a solid freelance roster.Historical data from past projects also points you in the right direction If you’ve been planning projects in a resource management tool, you can refer back to previous project records that paint an accurate picture of all the times you had too many or not enough resources. This way, you can learn from your past project mistakes and successes to accurately plan capacity for new ones.You can find historical data on past projects in the capacity Reports dashboard in Float, making resource optimization easier than ever before4. Build shared workflows for resource allocationIt’s time to ditch the email threads, Slack messages, and meetings and replace them with a resource allocation workflow that keeps everyone—that is, both your team members and project stakeholders—in the loop.We don’t need to tell you that endless back-and-forth messages only lead to confusion and mess; we’ve all been there. So, work with your team to create a dynamic resource allocation plan that includes inputs like each individual’s working hours, skills, location, utilization rates, time off, current workload, and tentative projects. Visibility into this data enables you to expertly navigate capacity management challenges like changes in project scope and unexpected unavailability.A purpose-built tool like Float should also let you filter and sort team members by skills and capacity and be aware of any upcoming time off to determine who is best suited and available for upcoming projects.With Float, you can click to find a motion designer or a copywriter, and you immediately have a list of everyone across all offices. You quickly know who speaks English and who speaks Spanish, and you can help out if someone is in need of a specific skill set.Maike Jahnens, Head of Financial Operations and Capacity Management at Scholz & FriendsAssign skill-specific people tags to your team members in Float, so you can filter by skill and find the right person for the right project fast5. Reduce bench timeToo many benched resources is a double whammy: it increases overhead for the business and decreases your people’s productivity. Make it a priority to predict bench time and take any necessary measures early on.A solid capacity planning system helps you reduce resource underutilization. It also gives managers accurate insight into the capacity and demand gap to plan their resources effectively.Easily surface underutilized resources in Float by sorting ‘Unscheduled’ people from high to low5 capacity management benefitsEffective capacity management goes beyond just keeping projects on track. By continuously monitoring your team’s availability and workload, you can make informed decisions that result in these five benefits:Make the right project management decisions: capacity management involves continuously gathering and centralizing data about your team’s skill sets and availability, helping you decide who is best fit for certain projects (and spot the need for additional help before it is too late)Prevent team burnout: an effective capacity management plan shows you what bandwidth your team has to take on new work, helping you guard against consistent overbooking. PS: it’s worth repeating that your team should have some excess capacity so they can handle unexpected work without being overwhelmed.Keep tabs on skill sets: regularly assessing resource capacity forces you to take note of your team’s strengths and skill gaps. When it’s time to assign a task, you can quickly evaluate who’s the best fit based on their skill set.Hire smarter: not enough resources is one of the most common capacity issues—but too many team members and not enough projects is just as problematic. Knowing how many team members, resources, and skill sets you currently have available for client projects ensures informed decision-making.Create more accurate budgets: with effective capacity management, you can predict common scenarios like panic-hiring an expensive contractor when your team unexpectedly hits maximum capacity in the middle of a project. Being proactive about resource capacity ensures you’re neither over budget nor time-strapped. Float alerts you as soon as your project is going over budget[fs-toc-omit]Plan capacity with your people in mindRemember: capacity management is not just about numbers and schedules—it’s about people. By prioritizing a balanced workload and fostering a culture of transparency and collaboration, you’ll inspire a thriving team ready to tackle any project.Manage capacity the right way with FloatRated #1 for resource management on G2, Float gives you the most accurate view of your team’s capacity to plan projects and schedule tasks with confidence.Explore Float’s capacity planning features Want to learn more about capacity planning?This was just the beginning! We have several more resources for you Information technology resources are sufficient to meet business requirements effectively This article needs additional citations for verification. Please help improve this article by adding citations to reliable sources. Unsourced material may be challenged and removed.Find sources: "Capacity management" – news · newspapers · books · scholar · JSTOR (June 2013) (Learn how and when to remove this message) Business administration Accounting Management accounting Financial accounting Audit Business entity (list) Corporate group Corporation sole Company Conglomerate Holding company Cooperative Corporation Joint-stock company Limited liability company Partnership Privately held company Sole proprietorship State-owned enterprise Corporate governance Annual general meeting Board of directors Supervisory board Advisory board Audit committee Corporate law Commercial law Constitutional documents Contract Corporate crime Corporate liability Insolvency law International trade law Mergers and acquisitions Corporate title Chairman Chief business officer/Chief brand officer Chief executive officer/Chief operating officer Chief financial officer Chief human resources officer Chief information officer/Chief marketing officer Chief product officer/Chief technology officer Economics Commodity Public economics Labour economics Development economics International economics Mixed economy Planned economy Econometrics Environmental economics Open economy Market economy Knowledge economy Microeconomics Macroeconomics Economic development Economic statistics Finance Financial statement Insurance Factoring Cash conversion cycle Insider dealing Capital budgeting Commercial bank Derivative Financial statement analysis Financial risk Public finance Corporate finance Managerial finance International finance Liquidation Stock market Financial market Tax Financial institution Capital management Venture capital Types of management Asset Brand Business intelligence Business development Capacity Capability Change innovation Commercial Marketing Communications Configuration Conflict Content Customer relationship Distributed Earned value Electronic business Enterprise resource planning management information system Financial Human resource development Incident Knowledge Legal Materials Network administrator Office Operations services Performance Power Process Product life-cycle Product Project Property Quality Records Resource Risk crisis Sales Security Service Strategic Supply chain Systems administrator Talent Technology Organization Architecture Behavior Communication Culture Conflict Development Engineering Hierarchy Patterns Space Structure Trade Business analysis Business ethics Business plan Business judgment rule Consumer behaviour International business Business model International trade Trade route Business process Business statistics Business and economics portalvte Capacity management's goal is to ensure that information technology resources are sufficient to meet upcoming business requirements cost-effectively. One common interpretation of capacity management is described in the ITIL framework. ITIL version 3 views capacity management as comprising three sub-processes: business capacity management, service capacity management, and component capacity management. As the usage of IT services change and functionality evolves, the amount of central processing units (CPUs), memory and storage to a physical or virtual server etc. also changes. If there are spikes in, for example, processing power at a particular time of the day, it proposes analyzing what is happening at that time and making changes to maximize the existing IT infrastructure; for example, tuning the application, or moving a batch cycle to a quieter period. This capacity planning identifies any potential capacity related issues likely to arise, and justifies any necessary investment decisions - for example, the server requirements to accommodate future IT resource demand, or a data center consolidation.[1] These activities are intended to optimize performance and efficiency, and to plan for and justify financial investments. Capacity management is concerned with: Monitoring the performance and throughput or load on a server, server farm, or property Performance analysis of measurement data, including analysis of the impact of new releases on capacity Performance tuning of activities to ensure the most efficient use of existing infrastructure Understanding the demands on the service and future plans for workload growth (or shrinkage) Influences on demand for computing resources Capacity planning of storage, computer hardware, software and connection infrastructure resources required over some future period of time.[2] Capacity management interacts with the discipline of Performance Engineering, both during the requirements and design activities of building a system, and when using performance monitoring. Not all networks are the same. As data is broken into component parts (often known frames, packets, or segments) for transmission, several factors can affect their delivery. Delay: It can take a long time for a packet to be delivered across intervening networks. In reliable protocols where a receiver acknowledges delivery of each chunk of data, it is possible to measure this as round-trip time. Jitter: This is the variability of delay. Low jitter is desirable, as it ensures a steady stream of packets being delivered. If this varies above 200ms, buffers may get starved and not have data to process. Reception Order: Some real-time protocols like voice and video require packets to arrive in the correct sequence order to be processed. If packets arrive out-of-order or out-of-sequence, they may have to be dropped because they cannot be inserted into the stream that has already been played. Packet loss: In some cases, intermediate devices in a network will lose packets. This may be due to errors, to overloading of the intermediate network, or to the intentional discarding of traffic in order to enforce a particular service level. Retransmission: When packets are lost in a reliable network, they are retransmitted. This incurs two delays: First, the delay from re-sending the data; and second, the delay resulting from waiting until the data is received in the correct order before forwarding it up the protocol stack. Throughput: The amount of traffic a network can carry is measured as throughput, usually in terms such as kilobits per second. Throughput is analogous to the number of lanes on a highway, whereas latency is analogous to its speed limit. These factors, and others (such as the performance of the network signaling on the end nodes, compression, encryption, concurrency, and so on) all affect the effective performance of a network. In some cases, the network may not work at all; in others, it may be slow or unusable. And because applications run over these networks, application performance suffers. Various intelligent solutions are available to ensure that traffic over the network is effectively managed to optimize performance for all users. See Traffic Shaping Network performance management (NPM) consists of measuring, modeling, planning, and optimizing networks to ensure that they carry traffic with the speed, reliability, and capacity that is appropriate for the nature of the application and the cost constraints of the organization. Different applications warrant different blends of capacity, latency, and reliability. For example: Streaming video or voice can be unreliable (brief moments of static) but needs to have very low latency so that lags don't occur Bulk file transfer or e-mail must be reliable and have high capacity, but doesn't need to be instantaneous Instant messaging doesn't consume much bandwidth, but should be fast and reliable Network Performance management is a core component of the FCAPS ISO telecommunications framework (the 'P' stands for Performance in this acronym). It enables the network engineers to proactively prepare for degradations in their IT infrastructure and ultimately help the end-user experience. Network managers perform many tasks; these include performance measurement, forensic analysis, capacity planning, and load-testing or load generation. They also work closely with application developers and IT departments who rely on them to deliver underlying network services. [3] For performance measurement, operators typically measure the performance of their networks at different levels. They either use per-port metrics (how much traffic on port 80 flowed between a client and a server and how long did it take) or they rely on end-user metrics (how fast did the login page load for Bob.) Per-port metrics are collected using flow-based monitoring and protocols such as NetFlow (now standardized as IPFIX) or RMON. End-user metrics are collected through web logs, synthetic monitoring, or real user monitoring. An example is ART (application response time) which provides end to end statistics that measure Quality of Experience. For forensic analysis, operators often rely on sniffers that break down the transactions by their protocols and can locate problems such as retransmissions or protocol negotiations. For capacity planning, modeling tools such as Aria Networks, OPNET, PacketTrap, NetSim, NetFlow and sFlow Analyzer, or NetQoS that project the impact of new applications or increased usage are invaluable. According to Gartner, through 2018 more than 30% of enterprises will use capacity management tools for their critical IT infrastructures, up from less than 5% in 2014.[4] These capacity management tools help infrastructure and operations management teams plan and optimize IT infrastructures and tools, and balance the use of external and cloud computing service providers.[4] For load generation that helps to understand the breaking point, operators may use software or appliances that generate scripted traffic. Some hosted service providers also offer pay-as-you-go traffic generation for sites that face the public Internet. Next-generation NPM tools are those that improve network management by automating the collection of network data, including capacity issues, and automatically interpreting it. Terry Slattery, editor at NoJitter.com, compares three such tools, VMWare's vRealize Network Insight, PathSolutions TotalView, and Kemp Flowmon, in the article The Future of Network Performance Management,[5] June 10, 2021. The future of network management is a radically expanding area of development, according to Terry Slattery on June 10, 2021: "We're starting to see more analytics of network data at levels that weren’t possible 10-15 years ago, due to limitations that no longer exist in computing, memory, storage, and algorithms. New approaches to network management promise to help us detect and resolve network problems... It’s certainly an interesting and evolving field."[5] Application performance management Capacity planning IT operations analytics ITIL Network monitoring Network planning and design Performance analysis Performance tuning ^ Klosterboer, Larry (2011). ITIL capacity management. Boston: Pearson Education. ISBN 0-13-706592-2. ^ Rouse, Margaret (April 2006), Building with modern data center design in mind, archived from the original on 3 March 2018, retrieved 23 September 2015 ^ Jordan, Dorris, M. "Product life cycle". Retrieved 17 November 2021.{{cite news}}: CS1 maint: multiple names: authors list (link) ^ a b Head, Ian (Jan 30, 2015), Market Guide for Capacity Management Tools, Gartner[dead link] ^ a b Slattery, Terry (June 10, 2021). "The Future of Network Management: A recap of three network management products". NoJitter.com. Retrieved from " Webinar: Linking ServiceNow data to KPIs with Power BI | July 2Save my seatToo often, chaos comes between strategy and execution. Tempo bridges the gap with a flexible, scalable strategic portfolio management platform designed to bring alignment, visibility, and adaptability to every level of your organization.Explore SPM PlatformRead SPM GuideTempo is trusted by 30,000+ global companiesTurn your corporate vision into reality by enabling leaders to optimize resources, focus on priorities, and deliver value across the portfolio simply, affordably, and at scale.Watch the VideoTalk to an ExpertRoadmapping and Idea ManagementBuild your portfolio vision with Strategic Roadmaps. 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Predict, adapt, and deliver with the market's only solution that reliably tells you when your projects will be completed. Start Free TrialLearn MoreSee alsoTempo integrates with tools your organization already uses, right out of the box.Also see how Tempo supports others in your organization.Tempo’s intuitive automation and Jira-native design make it the most trusted time tracking tool for enterprise organization. Learn moreA powerful team resource management tool designed to optimize capacity planning and project management in JiraLearn moreVisualize all your Jira data & manage portfolios of projects in real-time.Learn moreSee how work is progressing and where blockers are with the most flexible reporting app in Jira. Learn moreDelivering outcomes at scaleUnify your teams, dismantle communication barriers, and turn your organization's scale into an asset, not an obstacle. Tempo's modular, flexible, and scalable SPM platform lets you transform at your pace without disrupting teams.Learn moreThe SPM Journey Guide Learn how to advance from scattered spreadsheets to an enterprise-wide portfolio system with our clear roadmap through each stage of the SPM journey.Tempo proudly supports teams of all sizes the world over, and we love to share their success stories.“Since implementing the Tempo suite, the REDspace team has estimated cost savings of over $220,000 CDN or $25,000 per Project Manager annually.”Angela CampbellProject Management Office (PMO)Ensure your company's data is completely secure and that you're in compliance with the latest standards.Align your strategic initiatives to the resources you need to achieve them.TwitterInstagramLinkedInYoutube Generate visuals automatically with AI and data imports, or build your own using intuitive diagramming tools. Capacity is the maximum level of output that a company can sustain to make a product or provide a service. Planning for capacity requires management to accept limitations on the production process. Depending on the business type, capacity can refer to a production process, human resources allocation, technical thresholds, or several other related concepts. No system can operate at full capacity for a prolonged period; inefficiencies and delays make it impossible to reach a theoretical level of output over the long run. Capacity ties into the fact that all production operates within a relevant range. No piece of machinery or equipment can operate above the relevant range for very long. Assume, for example, ABC Manufacturing makes jeans, and that a commercial sewing machine can operate effectively when used between 1,500 and 2,000 hours a month. Capacity is the maximum output level a company can sustain to provide its products or services.Depending on the business type, capacity can refer to a production process, human resources allocation, technical thresholds, or several other related concepts.Some larger or highly technical companies may hire specialized managers to manage capacity. If the firm sees a spike in production, the machine can operate at more than 2,000 hours for a month, but the risk of a breakdown increases. Management has to plan production so that the machine can operate within a relevant range. Capacity assumes a constant level of maximum output. This production level assumes no machine or equipment breakdowns and no stoppages due to employee vacations or absences. Since this level of capacity is not possible, companies should instead use practical capacity, which accounts for repair and maintenance on machines and employee scheduling. Managers plan for production capacity by understanding the flow of costs through the manufacturing process. ABC, for example, purchases denim material and ships the material to the factory floor. Workers load the material into machines that cut and dye the denim. Another group of workers sews parts of the jeans by hand, and then the jeans are packaged and sent to a warehouse as inventory. Sometimes, especially at larger companies or those with a highly technical focus, dedicated capacity managers who often have specialized education and training in logistics, handle capacity management. A capacity manager might deal with external goods or services like outgoing and incoming freight; they might manage a more technical type of capacity, like knowing the output capacity of a computer network; or they could manage employees on hand at any given time for a large customer service provider. A manager can maintain a high level of capacity by avoiding bottlenecks in the production process. A bottleneck is a point of congestion that slows the process, such as a delay in getting denim materials to the factory floor or producing flawed pairs of jeans due to poor employee training. Any event that stops production increases costs and may delay a shipment of goods to a customer. Delays may mean the loss of a customer order and possibly the loss of future business from the client. Management can avoid bottlenecks by working with reliable vendors and properly training employees. Every business should budget for sales and production levels and then review actual results to determine whether production is operating efficiently. Business owners rarely discuss capacity planning with enthusiasm. Understandably, it’s one of the least creative aspects of business operations. Nevertheless, they cannot deliver the products efficiently without a capacity planning process. This article explains the importance of capacity planning in operation management, describes strategies that can be implemented, and showcases helpful examples for your inspiration. Our experts can deliver a custom Capacity Planning in Operations Management paper according to your requirements Get a custom-written paper You can get an original academic paper according to your instructions Capacity planning is one of the main aspects of operations management, as it focuses on the efficient use of resources. In general, capacity is the ability to deliver goods and services to customers. A mismatch between the company’s capacity and clients’ needs leads to inefficiency, and capacity in operations management planning aims to reduce the discrepancy. It is an essential element that ensures proper resource management and optimal levels of operations. There are five steps in implementing capacity planning in operations management: Understand current capacity. Current capacity is the maximum possible output measured in units of output per period. A lot of businesses fail because they do not understand what their operational capacity is. Project future demand. Demand forecasting is the process of making predictions based on a customer’s future demand. There are various templates available online that can assist in making these projections. Calculate the capacity gap. It can be defined as a disparity between a company’s production goals and actual production capacity. After calculating it, businesses should look for ways to balance the current and future demand. Identify where additional capacity could come from. Organizations can add more team members, more machinery, or more projects. Assess the risks. Last but not least, organizations should take into account the impact of the implemented changes and possible risks, such as failing to deliver or going over budget. There are four types of capacity planning in operation management that can affect the organization’s overall strategy. These types include: This type of capacity planning looks at separate projects within an organization and measures the time and resources needed. Project managers use a formula to calculate the number of employees that are going to be working on the task. After that, the project delivery milestones are communicated to the clients. The project capacity planning strategies should also consider resource and supply chain management. Companies use this capacity planning tool to identify the resources needed to meet future demands. It is especially crucial in manufacturing as there are three aspects involved: machines, people, and tools. All of them are tied together to guarantee timely production, delivery, and effective use of materials and personnel. Team capacity planning is used for groups that operate together. Legal or design teams usually work on multiple projects together within one organization, so project managers need to understand how much work can be accomplished daily and how it will affect project timelines overall. This type is similar to resource planning and is conducted by an HR manager or team. It takes into account factors such as the ability to hire, resources for onboarding and training new employees, and budget for the new hires. Get your customized and 100% plagiarism-free paper done in as little as 1 hour There are three methodologies behind capacity planning. To choose the right one, business owners need to understand the risks they are willing to undertake and the lifecycle of the products. This methodology focuses on having enough resources to meet the current demand. It is a conservative way to maintain the costs as low as possible. A disadvantage of this method is that it can create a lag in the production and delivery of services if a business gets more demand. This is a way of planning in which you have enough resources to meet the projected demand. It has more risks than the lag strategy. For example, if a company hires new workers and doesn’t get the orders, it will end up paying the wages for the employees to sit around. The match strategy method is the balance between the lag strategy and the lead strategy. It is the most flexible of all the strategies because businesses can closely monitor the market’s current and projected demand and movements. Based on the changes, they adjust the capacity management. We hope our article helped you better understand what capacity planning in operations management is. Share this link if you know a student, business owner, or project manager who needs help with this topic. In these competitive times, various things affect a company's capacity. It is a changeable quantity that may vary because of circumstances and outside factors, such as seasonal demand, market shifts, and other macro-environmental events. However, the ideal business must continue to move quickly enough to consistently fulfill customer expectations. The company must adopt capacity planning to balance supply and demand. According to capacity management theory, information systems resources must be planned for, monitored by IT, and administered to have the capability to meet data processing demands throughout the service life. Did You Know? Capacity Management is a focal point for issues related to IT performance and capacity in an organization. What is Capacity Management? The process of ensuring a business's capability to perform certain tasks is called capacity management. It continuously prioritizes increased manufacturing output under any circumstance. In essence, it is the financial advantages a corporation can realize, generate or market within a specific time frame. A wide range of planning activities gets included in the capacity management process. These steps guarantee that a firm infrastructure has the resources to realize its potential fully. Additionally, it emphasizes ensuring output in any company and under any situation. For instance, planning, IT surveillance, and information on IT and technology administration make up the philosophy and strategies of capacity management. The proposal included space to accommodate data processing needs across various life cycles. The main objective of capacity planning management is to: strike a balance between costs and resources needed. Also Read: Meaning of Business Communication - Types of Business Communication & Why Business Communication Is Important Objectives of Capacity Management The main objectives of capacity management are efficiency, memory, physical space, and operational and development environments. It encompasses all business-related areas, such as hardware, software, peripherals, network infrastructure, and human resources. Comparing the available resources against the deadline is made easier with capacity management. It assesses the capacity and provides you with a snapshot of your company. Capacity management aids in resource availability analysis and makes it simpler for businesses to verify employees' availability and skill levels for forthcoming projects. Additionally, this research helps project managers and directors make wise judgments on hiring new employees and projects. Additionally, it aids in controlling the supply and demand of resources. Strategies For Capacity Management List of effective capacity management strategies every business owner must follow: Lag Strategy The organization responds to the call of high demand by increasing its production capacity once the entity has begun operating at full power under this method, which is considerably different from all other methods. Since it needs facts and numbers before acting, it cannot increase production based on assumptions. The advantages of the lag strategy include the following: Reducing the danger of overproduction. Not carrying any extra inventory. Deferring significant investments until they are essential. The company's lack of additional units in case of an unexpected spike in demand is a drawback. When the business distributes the excess inventory, the demand decreases or the consumers have already formed brand loyalty for another product. Lead One of the more aggressive approaches to capacity planning is to be this one. It is a strategy whereby the business raises its manufacturing capacity in advance of an anticipated rise in demand. Given the inventory shortages during demand periods, the company utilizes the lead strategy as a crucial weapon to draw consumers away from competing brands and toward its own. It also aims to cut down on stockout expenses. The Lead method has several advantages, which is why organizations like it. One drawback of the leadership strategy is that the company is left with extra inventory if demand does not increase. Match Given that it combines the Lead and Lag techniques, it is a moderate method. It doesn't assume and foresee very high requirements and begin to construct in response, nor does it wait until the high demand is knocking on your door. Instead, the Match Strategy makes minor adjustments in response to shifting market circumstances. Although it is difficult to complete, the risk is relatively small. Also Read: How to Write a Business Plan? - Ideas, Format, Need & More Understanding the Process of Capacity Management Data transfer efficiency, speed, and volume can all be measured with capacity management solutions. The journey of the data via the IT architecture is: aided by the data journey. Application design is made more accessible by capacity management. Below is the steps involved in the process of capacity management. The company might initially check how all the hardware and software in the ecosystem are operating thanks to capacity management. Additionally, it records crucial data flow information. The measurement and evaluation tools in the capacity management program must allow it to track the individual performances of IT assets. Servers, network nodes, storage systems, storage network equipment, cloud services, and network communications equipment are some of the components that make up capacity management. Software, technology, or manual methods can all be used for capacity management. Data movement measurements must get intercepted to regulate capacity. Emulation programs are the initial step in the capacity management process. Emulsion programs work well as capacity management tools. The software copies application software, such as database management software. It guarantees its own test data sets to provide precise and reliable outcomes. Difference In Capacity Management and Planning Capacity Management and capacity planning frequently need clarification. Despite certain similarities, there are also many differences between them. Capacity planning has a "nonrecyclable" quality, which is a distinction between it and capacity management. In other words, capacity planning is something that is done in advance. Capacity management involves the complete lifecycle of monitoring, data collection, data analysis, infrastructure optimization, and returning to the needs intake and evaluation. Digital enterprises should consider these concepts as distinct entities if they want to provide a successful capacity planning and administration approach. Difficulties Encountered with Capacity Management Every day, capacity planners must deal with a truckload of data that must be: manually entered into project worksheets. The data entered must be correct and presented in a proper format for the capacity management process to run smoothly. The same units of measurement, for instance. After the data has been added, they must include information on supply and demand. They then utilize calculations to determine information about the capacity that is available. A data challenge and a complexity challenge are very comparable. Errors are inevitable in capacity planning since it requires managers to work with numerous computations and intricate algorithms. Adding erroneous data to the spreadsheet, for instance. Unfortunately, such events may stop the process altogether. Additionally, capacity management typically involves multiple levels or tiers. Things to Consider in Capacity Management Different aspects of capacity management relies on resources, information, and time to complete. Simply put, the likelihood of errors increases when too many people participate in the planning process. Therefore, to prevent this, correct procedures must be in place. The foundation of any successful business is communication. An ocean of issues can result from poor or nonexistent communication. All staff members involved in the capacity management process regularly must exchange data to prevent such situations. Your capacity management strategy will function effectively if you communicate straightforwardly and transparently. The procedure will go more quickly and easily thanks to the business communication methods. Also Read: What Is Business Development - Complete Guide on Business Development Strategy for Successful Business Examples of Capacity Management Software firms, finance administration teams, design agencies, and product teams employ capacity management. And a TV making unit can be a perfect example. For instance, the company's managers must be aware of the approximate quantity of TVs sold to meet the escalating demand because there will be a surge in demand. The next step is determining whether the current capacity is sufficient to handle the increased demands. Production can start as soon as the license and the necessary personnel are in place. However, the business will need to launch it at least 2-3 months before the start of the world cup. By doing this, it will ensure that the TV sets have entered the retail market and are accessible at the precise moment when demand increases. Conclusion To sum up, a firm can obtain capacity management plans and procedures from several market sources and online sources. To execute full capacity planning, all that is required of you is to determine your company's objectives and move in that direction. Capacity management refers to a broad concept, whereas capacity planning is a subdivision of capacity management. However, the ultimate objective is to guarantee enough capacity available at the appropriate moment to meet the needs. Follow Khatabook for the latest updates, news blogs, and articles related to micro, small and medium businesses (MSMEs), business tips, income tax, GST, salary, and accounting. Capacity management is the process of managing the production output required depending on the demand & supply conditions to make sure that the business optimizes its capacity to the fullest. Capacity management is the ability to meet the customer demand with the available resources like machinery, factory, labour, raw materials etc. Importance of Capacity Management Without proper analysis and management of a company's capacity, it would be very difficult to create a sustainable business model. Either the business would not be able to meet the demand or it will end up having more capacity than required incurring losses. Capacity is the total amount of final goods a company can manufacture in a certain time period. Generally, the required outputs during manufacturing resource constraints are met by working overtime or redeploying the workforce.Capacity planning is done on the basis of projections for future product demand, labour and equipment requirements. Time and Capacity are the two main constraints in capacity management.When a customer has provided a deadline, managers have to plan backwards. This is when production schedules come into the picture. There are two types of schedules: 1. Job Schedule – Manufacturing plan for a particular job 2. Production Schedule – Joining several job schedules(tasks) to arrive at a production planThese are very important in making sure that capacity is well managed and also meets the demand fluctuations. Capacity Management Process The process includes the following steps: 1. Identify company’s future planThe opportunity pipeline and forecasts would help in knowing the demand for production in the coming days and months so that the capacity can be effectively managed. If more people are needed to hired or machine maintenance is required to match the upcoming demand. 2. Analyze customer demand & opportunities.A company needs to understand the customer demand and market trends through which again the opportunity pipeline would be created. Also need to see if some events or seasonality can affect customer demands. 3. Evaluate output of existing infrastructure and resources.Before increasing the production as per new plan, organization needs to see if the current infrastructure and resources would be able to manage the production. If not, new machines may have to be leased or procured. Also more manpower might be required to operate them. Quality control has also be managed well. Increased production should be of the highest quality. 4. Implement capacity planning depending on decisionAfter the plan, implementation and execution has to be done. If the decision is to add more machines and increase production, then the plan has to be implemented by getting the new machines, installing them and start the production to match the demand and orders. 5. Constantly monitor & review production capacityConstant monitoring and feedback is very important in capacity management. After the plan is made and implemented, the company needs to constantly review the processes. Like any good process, capacity management is an ongoing process and there always a scope for improvement. Types of Capacity Management Three types of capacity which needs to be managed: 1. Potential Capacity It is for the long term and indicates the available capacity at hand which can be utilized to influence the planning of senior management 2. Immediate CapacityIt is the maximum available capacity which can be utilized in the short term (on a day-to-day basis)so needs to be managed immediately 3. Effective capacityIt is the part of the total available capacity which can actually be put into use.Capacity Management ExampleLet us take an example of a television manufacturer. Now the company always need to make sure that they are able to meet the demand. Now the company forecasts that the TV demand may go high as football world cup is going to start in 6 months time.Now the managers would estimate the number of TV sets which would be sold as per the new demand and also it is observed that HD televisions would be in more demand. Next step would be too see if the current capacity is more than enough to product the additional demand for televisions or not.As per the analysis, they might need more capacity and manpower to handle the demand but then the demand is expected to go down immediately once the world cup ends, so the company would want to lease the machines rather than buying new which may be under utilized later. Once the lease is secured and manpower is recruited, the production would start 2-3 months before the event so that televisions can reach the retail channels when the demand rises. Hence, this concludes the definition of Capacity Management along with its overview.This article has been researched & authored by the Business Concepts Team which comprises of MBA students, management professionals, and industry experts. It has been reviewed & published by the MBA Skool Team. The content on MBA Skool has been created for educational & academic purpose only.Browse the definition and meaning of more similar terms. The Management Dictionary covers over 1800 business concepts from 5 categories.Continue Reading: « Business Logistics Capacity Utilization »Share this Page on: Businesses need to thrive, grow more profitably and stay competitive in a marketplace that is constantly changing. That means increasing their output to the greatest extent possible. The process of achieving that goal is called capacity management. To understand capacity management, we’ll first fully define the term, list the different types and explain why it’s so important in operations management. Then we’ll discuss some of the strategies involved in implementing capacity management and their benefits. What Is Capacity Management? Capacity management is the process of controlling a business’ available capacity to ensure that resources are being used as efficiently as possible. Businesses have a finite amount of resources and capacity management is working to get the most out of their workforce, production, etc. Business capacity measures how much a company can produce or sell over a given period. Looking at the various resources available to a company and comparing them to the time each needs for a specific project is part of capacity management. Then capacity management analyzes the capacity to get an overview of the composition of the human resources available and whether they are a good fit for the actual needs of the business. This leads to the development of a capacity management plan that addresses the supply and demand of resources. Capacity management seeks to answer the following questions: are there enough available resources to cover all products and are there enough projects to supply all available resources with enough workload? Some might confuse this for resource management, but there are differences. Capacity management is the first step in project planning. Only after this has been done will management focus on resources, such as assigning teams and allocating tasks. Being able to monitor resource capacity during the execution of projects is essential to ensuring that a business is maximizing its output. Project management software is a helpful tool in this process. ProjectManager is award-winning project and portfolio management software with features that oversee resources in real time. The team page allows managers to view all the human resources across their projects. They can then see if anyone is over- or underallocated and balance the team’s workload to keep everyone working at capacity to be as productive as possible. Get started with ProjectManager today for free. ProjectManager’s team page helps to maximize capacity. Learn more Types of Capacity Management Different types of capacity management must be managed to get the most out of production. These are potential capacity, which looks at the long term, immediate capacity, which is what’s currently available, and effective capacity, which is the total available capacity that can be put to use. In terms of types of capacity, there are also three types: workforce, production and resources. Let’s review each. Workforce Capacity Management: Aligns a company’s human resources with its operational requirements to meet customer demands, achieve business objectives and maintain a competitive advantage. It does this by identifying discrepancies between staff skills and upcoming work needs and making smooth transitions that integrate business strategy with human resource capabilities. Production Capacity Management: Seeks to manufacture the greatest amount of output in a production facility. Production capacity is measured in finished products over a given period. This helps manufacturers accurately quote lead times, provide more informed scheduling processes and gauges the efficiency of manufacturing processes and overall performance. Resource Capacity Management: Defines the amount of work that can be done by resources at a company, determining tasks and projects that can be completed by those resources over a set period and matches that work with the available resources to meet current and future demand. To do so effectively requires predicting demand, identifying resource gaps and developing and implementing strategies. Get your free Capacity Planning Template Use this free Capacity Planning Template for Excel to manage your projects better. Proactive vs. Reactive Capacity Management Proactive capacity management is planning and managing capacity to get the best business outcomes. Reactive capacity management is when managers and their teams respond to emerging capacity issues and try to stop them from negatively impacting performance. Reactive capacity management can be risky. Following this type of response to capacity issues can lead to not having the resource capacity needed to effectively run projects. It requires visibility into the project so you’re not caught by surprise and unable to fulfill the project’s needs. Employing proactive capacity management is preferred as it’s a planned method that can meet the anticipated resource challenges. It involves resource forecasting and monitoring to make sure that there are enough resources available and used appropriately to meet current and future project requirements. By using the long-term process of proactive capacity planning costs are saved, resource utilization is optimized and there is better service quality. This allows businesses to better align resources with their objectives. Importance of Capacity Management in Operations Management Capacity management is important in operations management because it helps businesses with their budgeting and scaling so they can identify optimal levels of operations. In terms of budgeting, capacity management helps businesses determine how their services are offered and the appropriate time frames and staff required to meet current and future operational costs. This informs yearly budgets to better allocate money for expenses. For scaling benefits, capacity management helps businesses understand if there’s a need to add more staff to help meet anticipated demand based on capacity plans. Not only adding staff but adding specific skills or investing in a larger facility or new equipment is clearer through the lens of capacity planning. Capacity Planning Template This free capacity planning template for Excel allows you to estimate the human resource capacity that’s needed to execute a project, process or workflow. It allows you to identify the total available hours for your employees, the total hours that they’re scheduled to work, calculate their utilization rate and estimate costs based on their hourly pay rate. Capacity Management Strategies Manufacturers who want to ensure that they’re producing as much as they can to meet demand need to engage in capacity management strategies. Several are commonly used: lag, lead, match and adjustment strategy. All are ways that managers use to grow the business production capacity. Lag Strategy In this str

strategy for capacity management seeks to constantly adjust the amount of available resources in order to accurately reflect current and near-future demands. This type of strategy is the "market equilibrium" approach to perfectly match supply with demand.It may sound ideal, but there are cons to the strategy worth considering. Foremost, constantly measuring demand can be a resource-intensive process. It is also fraught with assumptions. These assumptions may get better and more accurate over time, but they nevertheless may cause an organization to overreact to factors that eventually prove insignificant. Further, organizations may struggle to engage in long-term planning if resources are constantly fluctuating.There are also transitional costs to consider. Whether using freelancers or full-time staff, hiring and onboarding talent takes time. The organization must anticipate the latency in bringing new resources up to speed.Overall, a match strategy is best-suited for organizations that have advanced resource calculation and planning capabilities. They must also be willing to trade off immediate capacity availability (found in lead strategies) or overall resource cost savings (as often found in lag strategies) for an ability to meet their resource needs exactly in the middle.An adjustment strategy is one of the most common approaches to capacity management because it responds to demands but not in perfect real-time. The organization may take a lag strategy approach for certain time frames or projects and a lead strategy in others. They may even seek to achieve an exact match during times when balancing resource availability with budget constraints is absolutely paramount.As opposed to a match strategy, where work is put into constantly calculating the current and near-future demand, an adjustment strategy responds to indicators on a less-frequent basis. The timeline for adjusting the strategy could be quarterly, monthly, or in some cases even weekly. An adjustment strategy could be thought of as the most-balanced approach to capacity management, but it also does forego the strongest advantages of the strategies above. By seeking to be neither conservative nor consistently proactive with resource procurement, the organization may encounter opportunity costs. The Boy Scout motto is "always be prepared," and one of the most common phrases repeated to modern organizations is that "you can't manage what you can't measure." Capacity management is a good combination of the two. It's important to note that capacity management can be both proactive and reactive. Proactively, it allows PMs and other organizational leaders to engage in careful preparation so projects have the best chance of success. In the reactive sense, capacity management creates a data trail and a historical record for each process so organizational leaders can learn deep lessons about what their teams are capable of, what talent may be needed, and exactly how long it takes to get great work done. These lessens can then shape the next project.If you want to start improving your ability to track employee time, create benchmarks for productivity, and ultimately begin resource planning and capacity management with the mindset of a data scientist, look into Tempo Timesheets and Planner Tempo Capacity Planner. Tempo solutions make it easier to track time and to create a solid record of team productivity, resource requirements, and time-based budgeting. Schedule a demo to learn more:Sign up for a demoRegister When technology is advancing faster than ever, IT professionals bear much of the burden of ensuring that businesses remain flexible and adaptable to new technologies and processes. It is up to IT to research, plan, design, purchase, monitor, and manage the deployment of new technology, ensure hardware and software standardization, and implement new processes and policies. The goal of ITIL capacity management is to help IT professionals plan for and keep up with changes while using resources efficiently. The ITIL framework is a set of best practices and procedures for delivering IT services. Capacity management is a discipline of the ITIL framework that IT organizations use to ensure that the right people, equipment, and processes are in place at the right time to optimize operational efficiency. The word “capacity” has many different meanings including ability, volume, amount, role, output, efficiency, and so on. All of these different meanings apply when talking about capacity management as IT professionals work to ensure that an organization has: The right infrastructure and service designs to address business needs. Processes in place that can be implemented with minimal interruption. Resources (workstations, servers, supplies) to meet deadlines and production quotas. People with the ability to do the necessary work to meet service level agreements. A budget allocated for optimal efficiency at a minimal price. The capacity to problem solve and respond quickly to meet current and future needs. Capacity management is concerned with keeping costs down while maintaining a high level of quality service. Part of a capacity manager’s job is to determine how much capacity is needed in order to provide current and future services in a fast and efficient manner while staying within a set budget. From there, they monitor the processes that have been implemented to evaluate effectiveness, speed, and reliability so they can determine where improvements can be made. Capacity management is an ongoing process that involves planning, designing, modeling, implementing, monitoring, managing, reporting, and revising. The following steps will give you an idea of what is involved in a successful capacity management process. First, you need to designate someone as the capacity manager. Depending on the size of your organization, your capacity manager may need to form a capacity management team. After your capacity management team is in place, you can determine what the business service needs are. To determine what kind of capacity you will need to meet demands, you’ll need to establish your current capacity. Your team can work to: Develop goals. Assess current capacity. Evaluate the effectiveness and productivity of current capacity infrastructure. Inventory the tools and software you currently have for monitoring and performance management. Research new tools or upgrades of possible software and tool solutions to help your capacity management efforts. Work with finance managers to determine costs and to estimate a budget. Analyze areas that need improvements, training, software, and new hires. Next, you’re ready to design a service level plan. Your plan should include: The components to be included (people, processes, and tools). An outline of the costs that will be incurred and a proposed budget. The intended place for capacity management to be implemented. The workflow that will be used, including inputs, outputs, and processes. The work that will need to be done to acquire and install capacity management tools and software. The kind of training that will be required. The amount of time that will be allocated for training. A timeframe for implementation. When your service design is completed, you will need to submit it for approval. In this step, you bring together everything you need to build the service. You’ll need to: Build the team. Determine the size of your team and if you’ll need to hire new team members. Consider how much training will be required. Acquire necessary equipment and software so the team can monitor the capacity infrastructure. Document everything—processes, plans, existing data, reports, applications used, costs, and so on. When everything is ready, implement your service design in your organization. Monitor and observe progress. After a few weeks or months, assess the processes and performance to determine what is going well and to identify areas that need improvement. Repeat these steps as necessary to meet the capacity requirements of future service demands and to continuously improve processes already in place. Technology is constantly changing. Capacity management is beneficial because it can help you stay ahead of the curve as you work to keep hardware and software standardized throughout your organization. In smaller companies, it shouldn’t be too hard to keep up with changes. Your company likely has a budget and processes in place to onboard new hires with standardized hardware and software. In larger organizations, more planning and well-defined processes are necessary in order to keep all employees up to date with standardized equipment. A capacity management service design can help you plan for necessary hardware and software upgrades with minimal impact on business operations. For example, you could design a plan to perform a company-wide operating system upgrade one department at a time rather than deploying to everybody all at once. This way, the capacity managers can monitor, analyze, and learn from each deployment so that subsequent deployments run quickly and smoothly with minimum downtime. Key benefits of capacity management in your IT organization include: Improved performance. Elimination of redundant work. Reduced costs through planned hardware and software purchases as opposed to purchases based on panic. Increased satisfaction and trust between IT and business units. Matched capacity to business need eliminates waste. Consistent reporting to gain insight into the total cost of ownership of hardware and software upgrades. Making informed decisions concerning future growth and capacity needs. As your company matures and processes are streamlined, you will likely develop your own best practices and improve on existing methodologies. A good place to start is to look at processes and procedures that work well in other organizations. The following are a few suggested best practices to help you successfully implement capacity management. Assign the right people to the right project: Make sure you have the right people assigned in the right places at the right time. This includes hiring the best-qualified individuals who have experience in your industry and with the project you are developing. It is best if you can find qualified individuals within your company who already understand the corporate culture and your products or services. Run some “what if” scenarios: Before implementation, create some “what if” scenarios so your team can be prepared for unexpected events. Contingency plans can help you quickly come up with the best solutions to fix errors and bottlenecks. This keeps production running smoothly. Learn from the past: If you don’t learn from what others have already done, you run the risk of making the same mistakes they made. Reading reports that document successful results similar to what you want to achieve can help your implementation have an immediate positive impact. Prioritize tasks: Prioritization keeps the team focused and ensures that the most crucial work is completed first, which helps to streamline the process and prevent downtime. Manage capacity vs. demand ratio: The number of people on the team does not necessarily determine whether you have the proper capacity to meet demand. Be sure to confirm resource availability before scheduling work. ITIL capacity management helps you make informed decisions based on existing data and well-designed plans. It takes the guesswork out of IT decisions and improves processes and procedures to keep your company running at optimal performance levels. Capacity management facilitates the monitoring and analysis of processes so you can identify issues before they become problems, decrease costs, and increase customer satisfaction.Lucidchart, a cloud-based intelligent diagramming application, is a core component of Lucid Software's Visual Collaboration Suite. This intuitive, cloud-based solution empowers teams to collaborate in real-time to build flowcharts, mockups, UML diagrams, customer journey maps, and more. Lucidchart propels teams forward to build the future faster. Lucid is proud to serve top businesses around the world, including customers such as Google, GE, and NBC Universal, and 99% of the Fortune 500. Lucid partners with industry leaders, including Google, Atlassian, and Microsoft. Since its founding, Lucid has received numerous awards for its products, business, and workplace culture. For more information, visit lucidchart.com.