CHAPTER 4

Holistic Approach to Service Management: Four Dimensions

Service management is not linear. While there are multiple aspects and components that go into the making of a service, there are several others on the consumption side. Both these sets of components have to find true north and collaborate to create value. These various components that make and consume IT services are put together in a model called four dimensions of service management.

This chapter explores the four dimensions/quadrants of service management, and the buck doesn’t stop with these four quadrants. There are several other external factors that influence delivery and consumption. We are going to examine them with a hawkish eye and drill down to the nuances.

Exam Tip  The four dimensions of service management account for two questions on the ITIL Foundation examination.
The Four Dimensions

Balance is essential in everything we do. A classic example is a diet that is based on balance. Almost all nutritionists would tell you to have certain food groups in every meal. Although carbohydrates are more feared these days than fat, they are still necessary to give you the energy you need to operate through the day. Proteins are the building blocks for growth and repair of your body tissues. Vegetables contain various vitamins, minerals, fiber, and antioxidants that contribute towards a healthy metabolism. So, the advice would be to consume all of them in moderation. This is the secret to a body that’s both healthy and attractive. Plus, you will want processed foods such as chocolates and desserts that are mostly fat, but they satiate your mental cravings.

Likewise, in the service management field, services are much like us. They need all the constituent components for their growth and health. Development in one area and neglect in the rest will introduce instability that will take the service further away from reaching its objectives. Similar to different food groups for a healthy diet, there are four dimensions that are identified as constituent components of a service. They are:

1. Organization and people
2. Information and technology
3. Suppliers and partners
4. Value streams and processes

The four dimensions must work in unison in creating value for the customer in the most effective manner and in an efficient way. This is illustrated in Figure 4-1.
The four dimensions, although indicated as four separate entities working towards a common cause, are not as distinct and separate as it seems. There is plenty of gray area between the dimensions or aspects that utilizes multiple dimensions. For example, partners and suppliers can be part of a value stream, which necessitates looking at both these dimensions under a single view rather than distinct.

The next point to note is that IT services do not operate in a vacuum chamber. They operate in an environment where changes are rapid and

**Figure 4-1. Four dimensions of service management**

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The next point to note is that IT services do not operate in a vacuum chamber. They operate in an environment where changes are rapid and
inescapable. Before the beginning of the year 2020, who would have imagined that a virus could bring the world to a complete halt in just about 3 months? IT services are not immune to factors that are outside the dimensions. These contextual factors are referred to as external factors. We will look at this in detail later in this chapter.

**Note** The four dimensions of service management are applicable to every single IT service. When each service is scrutinized under a powerful set of lenses, you will be able to identify the components that fit into each of the four dimensions. This categorization will provide you the ammo to rejuvenate and energize the areas in a balanced manner.

## Organizations and People

Services are run by people, and people are driven and guided by organizations. It is the most critical dimension and is considered the first dimension of service management.

The area of human resourcing that organizations and people come under is a vast playing field that’s been in continuous development for ages and will be in the same stage for years and centuries to come. Understanding human psychology and decoding the needs is an emerging field. From the service management’s dimension perspective, we are specifically interested in the following aspects:

- Organization structures
- Culture
- Roles and responsibilities
- Leadership
Bird’s-Eye View of Organization Structures

Organizations come in various shapes, structures, and volumes. We have oceanic companies like the IBMs and Wipros that are spread across the continents and have hundreds and thousands of employees working for them and for their customers. And then we have startup companies where the entire strength of the company could be in single digits and, if lucky, double. Between the startups and global corporations, you have a wide gamut of organizations varying in size and structure.

Every organization chooses a structure that works for it. There is no right or wrong structure. In fact, almost all the organizations change their structure based on changing atmosphere and circumstances.

The toast of the current trend is for a horizontal structure where an organization does not build a lasagna type layered organization. Rather, it builds a flat organization that has minimal layers and the bottom-placed employee has unhindered access to the top man. This is common in most startup organizations and has become synonymous with organizations that practice Agile principles.

As I mentioned earlier, nothing is simple and straightforward. While this flat structure might work in an organization that has tens of employees on its payroll, for a giant like IBM it is practically not possible. A 350,000 people company cannot have a flat organization. It simply isn’t feasible. They opt for several layers to ensure that the structure caters to effective and efficient delivery of services. The vertically structured organizations build layers based on the leadership, management, and delivery responsibilities.

Exam Tip While flat structured organizations tend to be Agile, the vertically structured organizations are process driven. The processes ensure that the service is delivered on time and within the set stipulations. You can expect a question on the structure of organizations in your exam.
Flat organizations are simple, and the structure does its job in transparent communication; in essence, everybody in the organization will have a pretty good idea of what everybody else is doing.

Vertical organizations are siloed. Every silo has its own set of responsibilities and deliveries, and people within a silo are expected to practice transparent communication. However, the challenge arises from the exact placement of the structure. How will the organization be structured? Will people with similar skills be placed in silos? So, during service delivery or product development, do they come together under a matrix organized structure? These are some of the tough questions that leaders must find answers for before determining the structural complexes.

As we touched base on in Chapter 2, a DevOps structure tries to break the silos as we know them and it brings people around the product that is being developed and managed. In essence, bringing people connected with products into a team is a silo in itself, a silo that houses various skill sets rather than a specialty. While silos in themselves aren’t bad, the DevOps structure gives the maximum opportunity to create value through team structures. In fact, most organizations today are moving away from their traditional structures and into a DevOps structure.

Not Just Structures, Culture Too!

It’s reasonable and necessary to change an organization’s structures to ensure maximum effectiveness and efficiency and minimize conflicts. But that alone cannot do the magic. The underlying culture that an organization imbibes matters a whole lot more than the structure.

Culture is about the organization’s psychology. Is the organization intolerant about flouting ethics? Is the organization respectful of the wishes and desires of employees from a career perspective? Is the organization transparent in its decision making? Does the organization promote open communication? These are some of the questions that
could determine the culture of an organization, and this eventually is
go ing to determine the value that it generates for its customers. Because
you are not going to have happy and fulfilled employees with a culture that
doesn’t support them and their aspirations, to put it simply.

**Note**  DevOps promotes the culture of shared responsibilities and
blamelessness. Through these cultural traits, the aspiration is to build
a team that collaborates and works as a single unit rather than silos
with conflicting goals and objectives.

How is a culture formed? It is not something like structure where I
could change it overnight using a Visio program. Culture trickles from
the top into the various parts of the organization. The leaders have to
imbue the cultural aspects of an organization, start promoting it with their
subordinates, and expect their subordinates to take the message down to
t heir subordinates. The leaders have to share the vision and the goals with
the rest of the organization. There is no easier way to build desired culture
in an organization. It is tough and arduous work that requires preaching
through following. The area of organizational change management delves
into these aspects of culture building.

**People Roles and their Responsibilities**

Without a doubt, we must acknowledge that people make services happen.
Without people, no matter how many activities we automate, it does not
match up to what people can do. The people resource therefore must be
preserved, protected, and nurtured. The organizational structures and
cultures are the foundations that are to be in place before making people
responsible for certain areas of activity.

“People” includes those in leadership positions as well as the
employees in lower rungs of management and individual contribution.
It includes administrative functions that enable employees working for services such as human resources, procurement, and administration among others.

Choosing the right people is a tough nut to crack. I haven’t known an organization that has got all its ducks in a row. They are always hunting for the right person and trying to chop, change, and experiment with options.

Organizations must get their leaders right, sooner rather than later. These leaders will be entrusted to start choosing the people in their teams, the people who deliver and the people who can make a difference in this game of value generation. Choosing leaders is absolutely critical!

After leaders pick their teams, they need to spell out their roles and responsibilities. They need to ensure that the person’s aspirations, skills, and interests are considered while drawing the roles and the activities the person is made responsible for. In flat organizations, roles don’t mean too much because of the reduced competition, and responsibilities too are generally not restricted to a single area of study. For example, a technical head may also be expected to manage procurements and sales. So, roles may not matter too much in flatter organizations, but they definitely do in vertical organizations. The level of competition is significantly higher, and the span of responsibilities will be quite narrow. A Unix administrator may not do much other than Unix administration in a global corporation. Therefore, it is quite likely that this employee looks for avenues that promise more action.

Managing career aspirations is a tough ask, and it must be managed without an excuse. People who work in a particular field will get bored with what they do, and their boredom will become visible in their work products at one point or another. Before getting to this point, an employee’s aspirations must be understood and supporting actions must be taken. For example, continuous learning is one of the key items for most people who work in IT. Almost everybody likes to learn new skills and take their career forward, so the organization’s culture must be built to support its employees in their future endeavors.
When we talk about people in this dimension, the scope is all people who are involved in the service delivery and value creation. It could be people from the customer organization who are playing the role of a product owner; it could be the engineers from a supplier organization; or it could even be the person involved in the sales area. We carry everyone along on the journey.

**Exam Tip**  Roles and responsibilities is a big topic, and the sky is the limit when we talk about what can be learned. From the examination perspective, it is important to note that identifying roles and their responsibilities is a critical task that is performed in service management.

I started my career in the ITIL area, with operations first and then as a consultant. My interest in the subject led me to higher positions, more responsibilities, and a chance to develop frameworks based on the customer’s requirements. While I did more of it, I became adept at seeing the world beyond ITIL. Through a bit of luck, I moved into the Agile and DevOps field, and have discharged several roles including a scrum master, Agile project manager, program manager, DevOps consultant, and DevOps architect. Although I am an accomplished DevOps architect in my organization, I have not stopped learning. I have been studying newer technologies and adapting methodologies to fit the DevOps scheme for COTS (Commercial Off The Shelf) products. By keeping myself busy in learning and growing in my field, I have always felt that I am in the career of choice where the horizon for growing and learning is expanding by the day.
Leadership Matters

They say that a leader is as good as the team is. This is true, but it’s a two-way street. An inspired leader can turn the fortunes of a team, an organization, or even a nation. It is paramount that the person leading people knows true north—the objectives of value creation.

There are several styles of leadership and all the ways take us to a common destination. It is not important which style a leader embodies, but it is important that a leader is in place to lead the team. The objective of this section is not to go into the details of leadership. There are several texts available on the topic. I used this section specifically to make aware the importance of leadership in the organization and people dimension of service management.

All Roads Lead to Value

So far in this book, no matter what I have touched upon, I have landed in one form or another on the importance of value. With the delivery of services, a service provider delivers value. It is this that drives a service provider in creating the product, the service, and everything built around it. Without value, there is nothing.

So it is absolutely imperative that everybody involved is oriented toward true north—the value that is being created. This can be made possible by percolating a clear understanding of which actions lead to value delivery for the customer, and how everybody involved can work in a collaborative manner aimed with a single objective. It could be through the team coming around the service in a DevOps team fashion or through a focused approach of delivery. There is no particular way of achieving value; but whatever the identified way, it needs to be accomplished as a single unit.
Information and Technology

Information and technology are used together generally in the information age. There isn’t anything wrong with it; however, we must understand that both are distinct.

Information refers to the knowledge that we have gathered, the wisdom of experience, the data and everything else that goes with it. Technology on the other hand is the electronics and coding that makes our lives simpler. Be it the servers, the data center, the mobile phones, or the cloud infrastructure, they all fall into the technology space. Advancements in technology include automation, blockchain, artificial intelligence, and machine learning. The information and technology are used in conjunction, because the information is used on top of the technological components. For example, an asset inventory is used on top of an asset management database, which is a piece of software that helps in managing the data including retrieval with ease.

Focusing on the topic of information and technology dimension in service management, it can be applied to two areas:

1. IT for actual services (enjoyed by customers/users)
2. IT for service management (enabler for service providers and service consumers)

IT for Actual Services

Information and technology are leveraged to deliver IT services to customers. The dimension goes into the depths of information used during the course of creating, using, and managing IT services. This can be done both at the side of a service provider and a service consumer.
In the Netflix video streaming service, the IT of this service includes the servers, the content delivery network, and the video streaming technology. These are the various IT components that directly have a bearing on the IT service.

**IT for Service Management**

Information and technology for service management are those sets of informational and technological components that support the service provider and the service consumer to enable the IT for their users.

Continuing with the Netflix example, the company manages an inventory of video titles, an inventory of the software and hardware that is used to host the IT service, along with relationships. Furthermore, the service provider will leverage workflow management for obtaining approvals (as in service requests and change requests) or it could be a ticketing system to record incidents. All these systems and the service management information that resides on them are not used by the user. This information is used to improve the service, to ensure that the service runs unimpeded and the user gets the best of experience. Imagine how a user feels if the movie buffers every couple of minutes. Although the CDN provides the data to the user, there could be a problem that is raised on the service management to identify the root cause of the buffering. The solution coming out of it when deployed is value added for the user, because it aims to fix the buffering issue. This is a simplistic example of how IT for service management aids/supports/enables an IT service.

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**Note**

**IT for Services** Information and technology aspects that directly influence an IT service.
**Note**

**IT for Service Management** Information and technology aspects that influence the management of IT services by the service provider and service consumer organization. This does not impact a service directly. Example: If a ticketing system is broken, the ability to log an incident is impacted, which delays the restoration of an IT service—indirectly impacting the IT service.

**Considerations for Information**

Information is power. In the hands of a wrong entity, it has the consequences of completely wiping out businesses and competition. It is therefore of utmost importance that information be handled with care and with a framework that ringfences it from misuses.

While designing information management, the information architect must consider various aspects such as:

1. Service providers must identify the different types of information that are needed to deliver the services and for service management. The spectrum of information must be carefully picked to ensure that the information gathered is just about enough and does not end up being overheads. Netflix during registration takes down our name, geography, email address, and credit card details. These details will help in the delivery of video streaming services for its users.

2. How is the information stored? Is there enough encryption in place to protect it from misuse? We have heard from time to time of several breaches that have made sensitive information public.
The consequences can potentially bankrupt companies and put individuals at risk. So, securing information is of critical importance.

3. How does a service provider manage the information? Information changes from time to time. How is it updated in their systems? For example, when a credit card on record expires, how do users get to update it? Is it on their portal or does an agent call to get the details? We have both instances and both work. The question is whether we have sufficient security, especially when a human is involved in the process.

4. When a user decides to stop using a service, what happens to the user’s information? Is it archived or wiped clean?

5. Regulatory compliance is another dimension of managing information. There are regulations such as the General Data Protection Regulation (GDPR) for organizations based out of the EU that give users the right to choose how their personal data is leveraged. Likewise, there are multiple regulations in place across geographies and in various industries that specify information regulations. Compliance with them must go into the design of information management.

6. Most importantly, today it is by choice that information resides on a particular system. Other systems through interfaces and integrations seek the needed information. For example, let’s say that Netflix stores customers’ payment information on a
SAP system. During renewals, the invoicing system will pull the customer’s payment information, charge it, and then disposes of the information. Such exchanges of data are quite common. So, the following criteria must be put in place for the information in play:

a. Is the information sought relevant?
b. Is the information sought available?
c. Is the information reliable?
d. Is the information accessible (permissions)?
e. Is the information on record accurate?
f. Can the information be retrieved in a timely fashion?

**Considerations for Technology**

Turning our focus to technology, there are more questions to ponder about.

1. It is quite rare that companies start from scratch. So, does the technology chosen gel well with the architecture that’s in place? This is a question that prods capital investment to flow in the case of major architectural changes. For companies starting fresh, they can opt for anything under the sun and they would end up OK, but this is generally an unlikely case. Because even they would build on something that is already there rather than start from nothing. A news portal might opt for Wordpress as its content management system over something like Drupal, which is losing out heavily compared with 20 years back when it ruled the market.
2. What is the future of the chosen technology? I would be wary of choosing something that just hit the market. What if it cannot sustain and if it has major security flaws? So, it’s important to choose a technology that has a future, at least as much as the experts can foresee. For example, if you had chosen Google Plus as a choice of social networking for your organization, you would have regretted the decision because the product is no longer supported.

3. Strategy is crucial with technology. Does your organization’s strategy match with the technology decision? I know of organizations that seek to keep IT expenditures minimum and opt for open source. So for such organizations, going for Office 365 may not be the best option. They might opt for Google for Business combined with Chromebooks and the entire fleet of Google products to cut down on costs.

4. Every service provider organization has its own strong suits. Some have a host of architects who are doyens of Amazon Web Services. For this organization to opt for Microsoft Azure suite would be counterproductive. They must put their mouths where the money is.

5. Is the chosen technology secure enough to store the service-related information? Are there regulations in place that are met by the chosen technology?

6. Automation is essential today. Every company is looking at ways of reducing IT costs, and automation has been a reliable vehicle to offload mundane activities. The chosen technology must accelerate
employing automation. Most modern technologies do. It is unlikely that an organization might opt for mainframes today, which offer most resistance to automation.

7. An aspect of technology that is most desired is expandability. If I opt for a particular technology for implementing a functionality, I don’t want to be restricted to opting for a different technology for a feature that I might introduce 2 years down the line. The identified technology must offer enough choices of flexibility in adaptation and a road map for the future imprinted.

8. With all the good things that technologies bring to the table, there is also their baggage. What are the risks and constraints that a technology introduces to a service? This is a critical aspect to consider before the decision is made. The decision also exposes the risk appetite of organizations that are willing to take chances for certain attractive features that a technology might offer.

**Exam Tip** Any of the considerations put forth under information and technology might turn up in the examination. Therefore, it is imperative that you understand the meaning behind the consideration rather than the actual questions that I have put out. It is possible that the questions I have posed are not comprehensive. You must be in a place to judge whether a particular aspect of information or technology poses a direct benefit or contradiction for the impending decision to be made.
Partners and Suppliers

The third dimension of service management is the partners and suppliers. While the earlier two dimensions looked inward, this one is looking at external dependencies. We live in a world where cooperation and collaboration have become the norm between companies rather than an added advantage. No company can aim to provide services or products to its customers without taking help from other companies. The other companies could be in the form of a raw material supplier, network provider, or human resource contractor. The days of negotiations to win and to get the best possible deal are behind us. As a customer, we don’t just want to get the best deal possible but also ensure that the relationship with the supplier is consistent and continuous. For this, it is imperative that the deal is a win-win situation. Due to this delicate balance, ITIL has identified partners and suppliers as one of the pillars/dimensions on which its service management is built.

Differentiating Partners and Suppliers

When I started my study on service management through ITIL V2, we understood who a supplier is. The roles and responsibilities were clear, and we knew how to deal with them. Then organizations started to tie up with others and started calling it a partnership. Through the prism of ITIL V2’s supplier management process, the partnership between companies was nothing but a glorified customer enrolling for services/products from a supplier. So why call them a partner?

As I mentioned earlier, the relationship between companies is critical, and in this century of fast-paced growth, companies need to tie in thick relationships if they want to survive and thrive. Partnership, in essence, is essentially a customer-supplier relationship. However, a partner is given more privileges than a supplier, is trusted, and often gets a seat at the table
during some level of decision making. Value is truly getting co-created
between partners, and such companies often tend to share goals, culture,
and business environment.

The strategy of organizations is to build partnerships with other
companies that are responsible for the delivery of critical services and
products. Companies sign generic agreements rather than specific ones,

come up with goals together, and often try to be as flexible as possible with

the other.

Most organizations today have a partnership with Microsoft because
several laptops and servers they run are powered by Windows and other
Microsoft software. These companies often get to install as many licenses

of software as they want and retrospectively let Microsoft know of the

numbers; and because of the partnership, they are entitled to a heavily
discounted price. For Microsoft, the partnership brings in more business
and can influence the organization into moving the non-Microsoft services

and products toward their realm. For the organization, priority support,
quick enablement of licenses, and a reasonable cost for the services and
products is very much acceptable. This is a win-win situation.

What about a supplier? How do we differentiate them? The same
organization relies on a stationery mart for all its stationery supplies. They
provide the order based on their needs, and the goods get supplied. The
transaction ends with the payment and delivery cycle. There is no need for
a partnership, as there are a hundred other merchants willing to provide
the same stationery sets and at a similar price. So this goods supplier is just
a supplier and nothing more.

This applies even in our daily lives. For example, I buy heavily from
Amazon. To me, I pick what I need and pay for it. When the item is
delivered to my doorstep, the transaction ends. Amazon is not critical, as
I can get a similar service from at least half a dozen vendors. However,
their Prime membership changes the sense of it from being a supplier to
a partnership, not in the true sense but in spirit. Being a Prime member,
I get access to their deals 30 minutes before others. Although this is trivial,
it gives me a sense of privilege and importance that through this Prime membership, I can possibly count them as a partner.

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**Note**

**Partners** – Built on trust and mutual need of critical services/products. Long-term commitment. Road map based.

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**Note**

**Suppliers** – Clear separation of roles and transaction based. Driven by contract for delivery of goods and services.

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**Organization Strategy for Opting for Partners and Suppliers**

An organization might choose to go in for a partnership or hunt for a supplier for a variety of reasons. This section investigates some common reasons for making this decision:

1. Remember the classic decision-making process involving buy or build in the software industry. Likewise, a strategic decision needs to be made by the company if they are going to build everything, or outsource it from another company because it isn’t their core area. Why would a bank want to maintain its own IT department if it can outsource to IT majors who can manage it efficiently for them?

2. Costs definitely play a role in the decision. If I can run my own IT department and spend 50% less compared with outsourcing, then I would be inclined to hire the best of talents and run my own IT shop.
3. What if IT people prefer to join IT companies only for the depth and variety of work it can offer? Even if a bank wants to hire good people, they may not get them easily. This could be one of the major factors for outsourcing.

4. There could be substantive trends in the industry to do it one way or another. Let’s follow the herd and be safe!

5. Legal and regulatory requirements could possibly turn the heat toward outsourcing. All these are risks and essentially, by outsourcing, an organization is transferring the risk to the partner/supplier.

**Introducing Service Integration and Management**

In the area of service management, the popularity of Service Integration and Management (SIAM) is second to ITIL. This is a framework that’s been in vogue for a couple of decades and is recently making waves in the IT industry.

I mentioned earlier that organizations tend to have several partners and suppliers who are tied up with them for various goods and services. Managing the suppliers and partners requires finesse and management skills that are an expertise of their own. Organizations get into a partnership agreement with partners who can act as service integrators. A service integration acts as an interface between a customer organization and partners and suppliers. All strategic, tactical, and transactions activities pass through the service integrator layer. This layer can either be a third party (partner) or it can be an internal division within the customer organization. No matter where they sit, their role is to ensure that all partners and suppliers are effectively managed.
SIAM is a framework built on the foundation of service integration and service integrators. It goes into the various processes, practices, and best practices in dealing with partners and suppliers from the perspective of a service integrator. I encourage you to take this course up after you complete the ITIL 4 Foundation certification.

Value Streams and Processes

The fourth dimension includes the value streams and processes. It is by no means the least important because of its placement. Other dimensions have to be understood if this dimension needs to deciphered.

In this dimension, the other three dimensions are put together and sewn into a coordinated set of steps to co-create value. Service management elements such as processes, procedures, work activities, workflows, and controls are defined through this dimension.

The difference between a value stream and a process is significant. A process exists to transform the inputs into defined and predictable outputs. It does not inherently go into unwanted process steps and inefficiencies. As long as the desired output is obtained, the process’ objective is met. A value stream goes a layer deeper. It is like a process but only in appearance. Underneath, it keeps a sharp eye on the various activities within a process that generate waste, with an aim to eliminate the waste and improve the productivity of the value stream, which in turn creates more value and at a faster rate.

Deciphering Value Streams

The term operating model refers to the set of activities that an organization undertakes. In service management, the operating model is aimed at creating value and the activities defined are aimed toward effective and efficient management of products and services. This is called an ITIL
service value chain. More specifically speaking, the set of patterns within the service value chain that is aimed at creating value is called a value stream.

**ITIL Definition of Value Streams**

* A series of steps an organization undertakes to create and deliver products and services to consumers.

Consider a set of activities that you could possibly perform in an organization. These activities will be performed in a certain pattern, and there are several patterns that could be drawn. These patterns are service value chains. The key patterns that can be identified to deliver value are called value streams.

As an example, if you were to visit a barber on a Saturday morning, the rush is generally high so you might have to wait a while for your turn. After the queue in front of you subsides, the barber asks for your preference and, based on that, cuts your hair. After the cut, he removes the cape and the hair and gives you a light brush before you make your way to the counter to pay for the service. All the steps that you took, you did so for value creation. With the barber who is the service provider, you were able to create value by getting a smart haircut. These activities that led to the value generation are a value stream. There are several wastes that we can identify in this value stream, such as the wait time and the vacuuming that the barber must do after you leave. The objective is to do more of the activities that deliver value and less of those that don’t. So, to generate more value, reducing wait time or eliminating it is a definite way of doing that, and perhaps an automated vacuum cleaner can eliminate the manual cleaning activities.

In essence, generating value is a two-step process. First, we identify the opportunities to optimize the value stream. Then we automate wherever possible—generally activities that do not involve human cognizance. An illustration is provided in Figure 4-2. The activities in red are the waste generating activities that need to be reduced or if possible eliminated.
An organization consists of several such value streams. The objective of value streams is to identify them—especially the activities that generate waste—and minimize or eliminate them. By reducing waste efficiently, we have effectively performed continuous improvement for the product/service that is in play. The second way to generate more value or to perform continuous improvement is to make the value generating activities more efficient and effective. This can be done using automation that decreases the turnaround time and the defect rate owing to human error.

**Simplifying Processes**

A process is similar to a value stream, but the objective is rather to get a desired output based on a predictable input.

**ITIL Definition of a Process**

A set of interrelated or interacting activities that transform inputs into outputs. A process takes one or more defined inputs and turns them into defined outputs. Processes define the sequence of actions and their dependencies.

Processes are buttressed with procedures, templates, and other similar artifacts.

You could envision a process as a set of activities that you need to perform, one after another, to achieve something. Each activity that you perform sets the precedent for the next one, and then the next. The objective of a process is to achieve an output that is along the expected lines and as desired.
Here’s an example to make the concept simple and digestible. A process is very similar to a recipe for cooking a dish. In a recipe, you have several steps that you need to follow, as instructed, to get the dish you desire.

Let’s look at the recipe for an egg omelet. It goes something like this:

- Step 1: Break a couple of eggs into a bowl.
- Step 2: Whisk it until it becomes fluffy.
- Step 3: Add salt and pepper to the mixture.
- Step 4: Heat a nonstick frying pan, and melt some butter until it foams.
- Step 5: Pour the egg mixture onto the pan, and tilt the pan until it covers the base.
- Step 6: Cook for a minute or two, and flip the omelet and cook it for a minute more.
- Step 7: Serve the omelet hot with toasted bread.

You need to follow the steps to the tee to get a good egg omelet. You cannot interchange any two steps to get the same output. In IT language, this is the process to make an egg omelet.

The main aspect of a process is the interconnectivity between the individual steps, and all the steps work collectively toward a common goal, a common objective that is desired.

When we use processes in ITIL effectively for products and services, we can find answers to a number of questions. These include identifying the delivery model of a service, identifying how a service works, identifying the value streams, and defining the roles and responsibilities of various parties.
Note  External factors influencing services and products are outside the scope of ITIL Foundation examination. I will still prod you to read this section, as these factors are practical and matter in work. If you are short of time, skip this section for now and return to it at your leisure.

The four dimensions are essential for designing and operating products and services. However, this does not happen in a vacuum. There are six external factors that are listed in Figure 4-1 that influence products and services either positively or negatively. Care should be taken to identify the positive influences and risks from negative potentials.

The six external factors that are identified in the study of four dimensions of service management go with the acronym PESTLE, and they are:

1. Political
2. Economic
3. Social
4. Technological
5. Legal
6. Environmental

Political Factors

Products and services are not immune to political actions of the organization or the state. A change in leadership and changes in legislation will affect how a service or a product is designed and run. Take, for
example, the situation of Covid-19, where the crisis has led to a lockdown across multiple countries. This is a legislation that must be followed by all parties. The services that are offered go through changes to adapt to the changing conditions. I bank with HSBC and when I reach their call center, they announce that their agents are working from home and I could possibly hear pet dogs and kids in the background. Then they continue by saying that digital encryption is in place for agents to access sensitive information from their homes.

This is not normal. The external political factor has forced organizations to make alternative arrangements. This situation of an oncoming disaster would not have been a surprise entity, but rather service organizations are well prepared for such situations and even do a trial regularly.

**Economical Factors**

The economy is the lifeblood of running services, as they theoretically run perpetually. A certain amount is budgeted based on various factors and the political and economic conditions determine if the budgeted amount is sufficient or not.

Continuing with the same example, economy has fallen to unprecedented levels. This will force organizations to effect cost cuts across various segments of the services. With a smaller budget, the services are still expected to run, perhaps with lower efficiency. Staying with HSBC, normally the call I place will be picked up in less than a minute; the last time I called them, I hung up after waiting for more than ten minutes. I am certain that the agent strength has been culled since the Covid-19 inception.
Social Factors

They say that every ten years the generation changes. Where that matters in products and services is in the area of necessaries, needs, and wants. As the social climate changes, services and products must change with the times—without exceptions. Organizations that do not change wither away over a period of time, as their products and services would generally be treated as obsolete and people would look for shiny new things. Nokia is a classic example of missing the train multiple times when the cell phone boom involving touch screens came into vogue.

Technological Factors

Advancements in technology positively impact products and services. So it is imperative that organizations build an appetite for technical upgrades, which translates to budgeting more funds. In some cases they affect negatively if organizations don’t travel in sync with the technology.

Consider the example of Blockbuster, the company that championed the movie and TV show rental business. Come streaming, they didn’t keep up and now they are closed forever.

Legal Factors

Products and services are delivered within the ambit of legal boundaries. The law of the land has to be implemented without exceptions, and the rules change from time to time. That’s the beauty of legality. Organizations must be flexible and adaptable enough to change with it.

Introduction of the GDPR in 2018 impacted all web channels that stored user data, which is a good majority. All digital channels had to make changes to websites to meet the regulation’s demands.
Environmental Factors

Who would have imagined that environment can be a factor influencing services and products? Yes, they play a role. As environments change, the demands from users change too.

Users are respectful of nature these days and prefer to purchase services and products that are organic and serve toward the greater good. This will make companies rethink the way their products are produced and serviced.

Knowledge Check

The answers are provided in Appendix.

4-1. Which service management dimension focuses on efficiency and cutting down waste?
   A. Organization and people
   B. Information and technology
   C. Partners and suppliers
   D. Value streams and processes

4-2. Which service management dimension focuses on how the staff in a supplier organization is organized?
   A. Organization and people
   B. Information and technology
   C. Partners and suppliers
   D. Value streams and processes
4-3. Which service management dimension focuses on culture?
   A. Organization and people
   B. Information and technology
   C. Partners and suppliers
   D. Value streams and processes

4-4. Which of these are not considered under the information and technology dimension?
   A. Information managed by the services
   B. Supporting information and knowledge needed to deliver and manage the services
   C. Generic delivery model for the service
   D. Information and knowledge assets’ protection and management

4-5. Which of the options accurately reflect the difference between a partner and a supplier?
   A. Clear separation of roles
   B. Partners maintain knowledge bases.
   C. Suppliers are managed by partners.
   D. Partners are managed by suppliers.