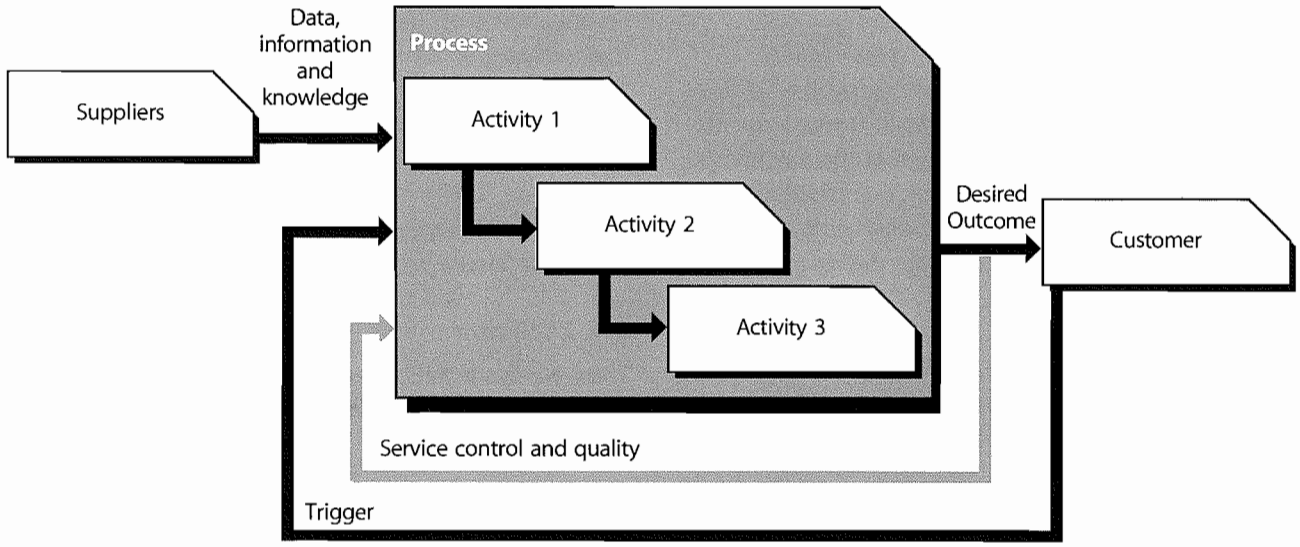

Figure 2.2 A basic process

- **Customers** – every process delivers its primary results to a customer or stakeholder. Customers may be internal or external to the organization, but the process must meet their expectations.
- **Responds to a specific event** – while a process may be ongoing or iterative, it should be traceable to a specific trigger.

There is often confusion around functions, processes, roles and activities. Functions are often mistaken for processes, and processes mistaken for functions. Service Design, as well as being a stage in the lifecycle of a service, can itself be seen by some organizations as a function, by others as a role or a set of processes or as an activity. Whether or not it is a function, role, activity or set of processes depends entirely on the size, structure and culture of an organization. It is important that however it is defined and implemented within an organisation, the success of the function, process, role or activity is measured and continually improved.

2.3.3 Specialization and coordination across the lifecycle

Specialization and coordination are necessary in the lifecycle approach. Feedback and control between the functions and processes within and across the elements of the lifecycle make this possible. The dominant pattern in the lifecycle is the sequential progress starting from SS through SD–ST–SO and back to SS through CSI. That, however, is not the only pattern of action. Every element of the lifecycle provides points for feedback and control.

The combination of multiple perspectives allows greater flexibility and control across environments and situations. The lifecycle approach mimics the reality of most organizations, where effective management requires the use of multiple control perspectives. Those responsible for the design, development and improvement of processes for Service Management can adopt a process-based control perspective. For those responsible for managing agreements, contracts and services may be better served by a lifecycle-based control perspective with distinct phases. Both these control perspectives benefit from systems thinking. Each control perspective can reveal patterns that may not be apparent from the other.

2.4 SERVICE DESIGN FUNDAMENTALS

2.4.1 Purpose/goal/objective

The main purpose of the Service Design stage of the lifecycle is the design of new or changed services for introduction into the live environment. It is important that a holistic approach to all aspects of design is adopted, and that when changing or amending any of the individual elements of design all other aspects are considered. Thus when designing and developing a new application, this

shouldn't be done in isolation, but should also consider the impact on the overall service, the management systems and tools (e.g. Service Portfolio and Service Catalogue), the architectures, the technology, the Service Management processes and the necessary measurements and metrics. This will ensure not only that the functional elements are addressed by the design, but also that all of the management and operational requirements are addressed as a fundamental part of the design and are not added as an afterthought.

Key message

A holistic approach should be adopted for all Service Design aspects and areas to ensure consistency and integration within all activities and processes across the entire IT technology, providing end-to-end business-related functionality and quality.

Not every change within an IT service will require the instigation of Service Design activity. It will only be required where there is 'significant' change. Every organization must define what constitutes 'significant' so that everyone within the organization is clear as to when Service Design activity is instigated. Therefore all changes should be assessed for their impact on Service Design activities to determine whether they are significant in terms of requiring Service Design activity. This should be part of the Change Management process impact assessment within the Service Transition publication of ITIL.

2.4.2 Scope

There are five individual aspects of Service Design considered within this publication. These are the design of:

- New or changed services
- Service Management systems and tools, especially the Service Portfolio, including the Service Catalogue
- Technology architecture and management systems
- The processes required
- Measurement methods and metrics.

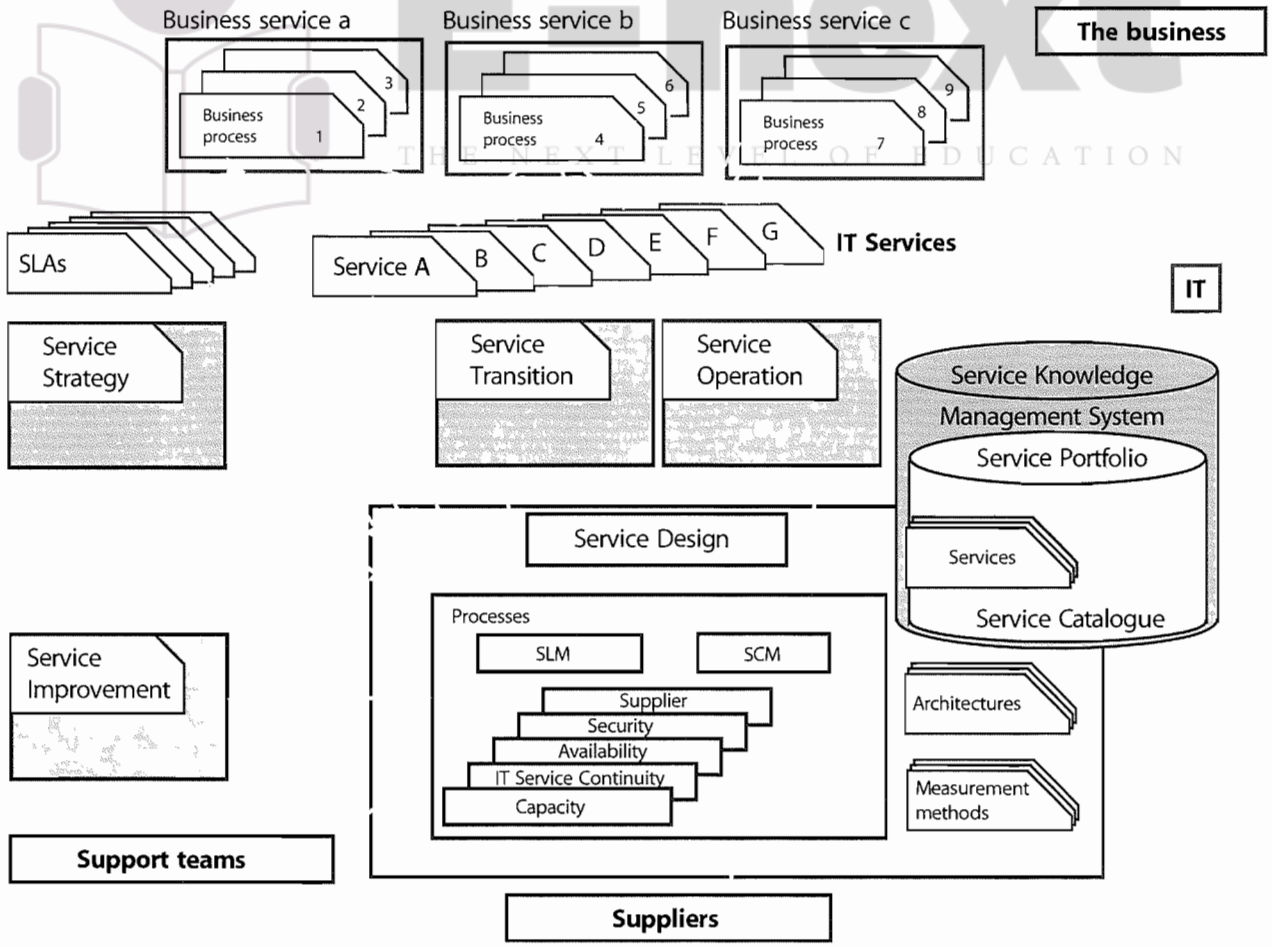

Figure 2.3 Scope of Service Design

The Service Design stage of the lifecycle starts with a set of new or changed business requirements and ends with the development of a service solution designed to meet the documented needs of the business. This developed solution, together with its Service Design Package (SDP – see Appendix A), is then passed to Service Transition to evaluate, build, test and deploy the new or changed service. On completion of these transition activities, control is transferred to the Service Operation stage of the Service Lifecycle. The activities involved in these stages are outlined in section 3. The overall scope of Service Design and the five aspects of design and how they interact are illustrated in Figure 2.3.

The main aim of Service Design is the design of new or changed services. The requirements for these new services are extracted from the Service Portfolio. Each requirement is analysed, documented and agreed, and a solution design is produced that is then compared with the strategies and constraints from Service Strategy to ensure that it conforms to corporate and IT policies. Each individual Service Design is also considered in conjunction with each of the other aspects of Service Design:

- **The Service Management systems and tools, especially the Service Portfolio**: to ensure that this new or changed service is consistent with all other services, and that all other services that interface, support or depend on the new or changed services are consistent with the new service. If not, either the design of the new service or the other existing services will need to be adapted. Also the Service Management systems and tools should be reviewed to ensure they are capable of supporting the new or changed service.
- **The technology architectures and management systems**: to ensure that all the technology architectures and management systems are consistent with the new or changed service and have the capability to operate and maintain the new service. If not, then either the architectures or management systems will need to be amended or the design of the new service will need to be revised.
- **The processes**: to ensure that the processes, roles, responsibilities and skills have the capability to operate, support and maintain the new or changed service. If not, the design of the new service will need to be revised or the existing process capabilities will need to be enhanced. This includes all IT and Service Management processes, not just the key Service Design processes.
- **The measurement methods and metrics**: to ensure that the existing measurement methods can provide the required metrics on the new or changed service. If not, then the measurement methods will need to be enhanced or the service metrics will need to be revised.

If all the above activities are completed during the Service Design stage, this will ensure that there will be minimal issues arising during the subsequent stages of the Service Lifecycle. Therefore Service Design must consolidate the key design issues and activities of all IT and Service Management processes within its own design activities, to ensure that all aspects are considered and included within all designs for new or changed services as part of everyday process operation.

The ability to measure and demonstrate value to the business requires the capability to link business outcomes, objectives and their underpinning processes and functions to the IT services and their underpinning assets, processes and functions. This value should be articulated by:

- Agreeing service levels, SLAs and targets across the whole enterprise, ensuring critical business processes receive most attention
- Measuring IT quality in business/user terms, reporting what is relevant to users (e.g. customer satisfaction, business value)
- Mapping business processes to IT infrastructure, since new components are added continuously, increasing the possibility of disruptions caused by IT and loss of focus on business services and processes
- Mapping business processes to business and service measurements, making services focus on IT measurements related to key aspects of business performance
- Mapping infrastructure resources to services in order to take full advantage of critical IT components within the Configuration Management System (CMS), which are linked to critical business processes. This may also use information within the complete Service Knowledge Management System (SKMS). More information can be found on the CMS within the Service Transition publication
- Providing end-to-end performance monitoring and measurement of online business processes, periodically reported against SLA targets.

Often the design of a major new or changed service will require that design changes are considered, and often affect or are affected by all of the other four phases of the Service Lifecycle. It is essential, therefore, that IT systems and services are designed, planned, implemented and managed appropriately for the business as a whole. The requirement then is to provide IT services that:

- Are business- and customer-oriented, focused and driven
- Are cost-effective and secure
- Are flexible and adaptable, yet fit for purpose at the point of delivery
- Can absorb an ever-increasing demand in the volume and speed of change
- Meet increasing business demands for continuous operation
- Are managed and operated to an acceptable level of risk
- Are responsive, with appropriate availability matched to business needs.

With all these pressures on both IT and the business, the temptation – and unfortunately the reality in some cases – is to 'cut corners' on the design and planning processes or to ignore them completely. However, in these situations the design and planning activities are even more essential to the overall delivery of quality services. Therefore, more time rather than less should be devoted to the design processes and their implementation.

In order that effective, quality design can be achieved, even when timescales are short and pressure to deliver services is high, organizations should ensure that the importance of the Service Design function is fully understood and that support is provided to maintain and mature Service Design as a fundamental element of Service Management. Organizations should strive continually to review and improve their Service Design capability, in order that Service Design can become a consistent and repeatable practice, enabling organizations to deliver quality services against challenging timescales. Having a mature Service Design practice will also enable organizations to reduce risk in the transition and operational stages of service.

In general, the key to the successful provision of IT services is an appropriate level of design and planning to determine which projects, processes and services will have the greatest impact or benefit to the business. With the appropriate level of thought, design, preparation and planning, effort can be targeted at those areas that will yield the greatest return. Risk assessment and management are key requirements within all design activities. Therefore all five aspects of Service Design must include risk assessment and management as an integrated, inherent part of everything they do. This will ensure that the risks involved in the provision of services and the operation of processes, technology and measurement methods are aligned with business risk and impact, because risk assessment and management are embedded within all design processes and activities.

Many designs, plans and projects fail through a lack of preparation and management. The implementation of ITIL Service Management as a practice is about preparing and planning the effective and efficient use of the four Ps: the People, the Processes, the Products (services, technology and tools) and the Partners (suppliers, manufacturers and vendors), as illustrated in Figure 2.4.

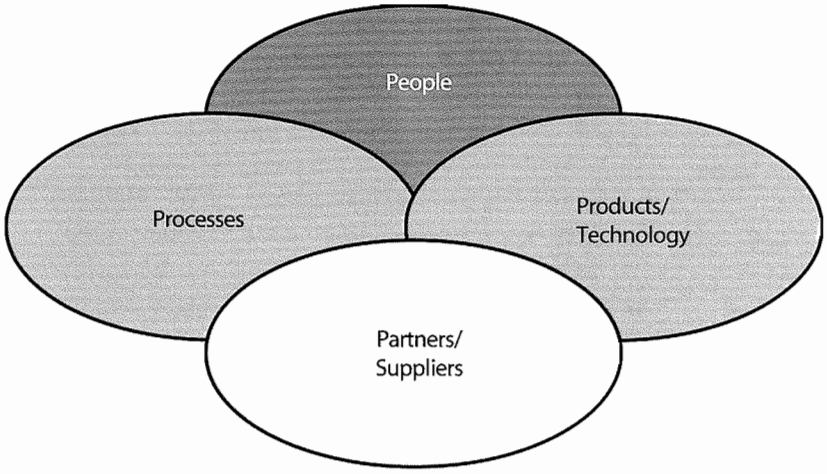

Figure 2.4 The Four Ps

However, there is no benefit in producing designs, plans, architectures and policies and keeping them to yourself. They must be published, agreed, circulated and actively used.

In order to ensure that business and IT services remain synchronized, many organizations form committees of senior management from the business and IT organizations. The committee carries the overall accountability for setting governance, direction, policy and strategy for IT services. Many organizations refer to this group as the IT Strategy or Steering Group. (ISG). The function of an ISG is to act as a partnership between IT and the business. It should meet regularly and review the business and IT strategies, designs, plans, service portfolio, architectures and policies to ensure that they are closely aligned with each other. It should provide the vision, set direction and determine priorities of individual programmes and projects to ensure that IT is aligned and focused on business targets and drivers. The group should also ensure that unrealistic timescales, which could jeopardize quality or disrupt normal operational requirements, are not imposed or attempted by either the business or IT. See Figure 2.5.

The ISG will include discussions on all aspects of the business that involve IT service, as well as proposed or possible change at a strategic level. Subjects for the ISG to discuss may include:

- **Reviewing business and IT plans**: to identify any changes in either area that would trigger the need to create, enhance or improve services
- **Demand planning**: to identify any changes in demand for both short- and long-term planning horizons; such changes may be increases or decreases in demand, and concern both business-as-usual and projects
- **Project authorization and prioritization**: to ensure that projects are authorized and prioritized to the mutual satisfaction of both the business and IT
- **Review of projects**: to ensure that the expected business benefits are being realized in accordance with project business cases, and to identify whether the projects are on schedule
- **Potential outsourcing**: to identify the need and content of sourcing strategies for the IT service provision

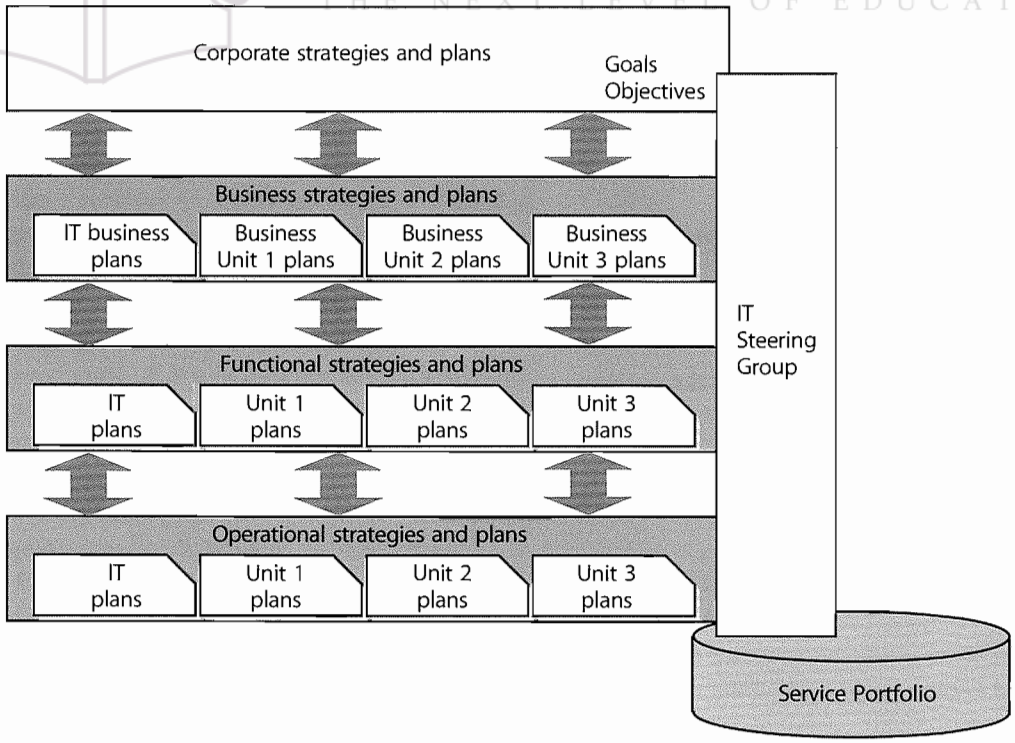

Figure 2.5 The IT Steering/Strategy Group

- **Business/IT strategy review**: to discuss major changes to business strategy and major proposed changes to IT strategy and technology, to ensure continued alignment
- **Business Continuity and IT Service Continuity**: the group, or a working party from the group, is responsible for aligning Business Continuity and IT Service Continuity strategies
- **Policies and standards**: the ISG is responsible for ensuring that IT policies and standards, particularly in relation to financial strategy and performance management, are in place and aligned with the overall corporate vision and objectives.

The IT Steering Group sets the direction for policies and plans from corporate to operational levels of IT organization and ensures that they are consistent with corporate level strategies. See Figure 2.5.

The ISG has an important role to play in the alignment of business and IT strategies and plans as illustrated in Figure 2.5. As can be seen, the Service Portfolio is a key source of input to the ISG in its decision-making role, which enables the ISG to:

- Direct and steer the selection of investment in those areas that yield the greatest business value and return on investment
- Perform effective programme and project selection, prioritization and planning
- Exercise effective ongoing governance and active management of the 'pipeline' of business requirements
- Ensure that the projected business benefits of programmes and projects are realized.

2.4.3 Value to business

With good Service Design, it is possible to deliver quality, cost-effective services and to ensure that the business requirements are being met.

The following benefits result from good Service Design practice:

- **Reduced Total Cost of Ownership (TCO)**: cost of ownership can only be minimized if all aspects of services, processes and technology are designed properly and implemented against the design
- **Improved quality of service**: both service and operational quality will be enhanced
- **Improved consistency of service**: as services are designed within the corporate strategy, architectures and constraints
- **Easier implementation of new or changed services**: as there is integrated and full Service Design and the production of comprehensive SDPs
- **Improved service alignment**: involvement from the conception of the service, ensuring that new or changed services match business needs, with services designed to meet Service Level Requirements
- **More effective service performance**: with incorporation and recognition of Capacity, Financial Availability and IT Service Continuity Plans
- **Improved IT governance**: assist with the implementation and communication of a set of controls for effective governance of IT
- **More effective Service Management and IT processes**: processes will be designed with optimal quality and cost-effectiveness
- **Improved information and decision-making**: more comprehensive and effective measurements and metrics will enable better decision-making and continual improvement of Service Management practices in the design stage of the Service Lifecycle.

2.4.4 Optimizing design performance

The optimizing of design activities requires the implementation of documented processes, together with an overriding quality management system (such as ISO 9001) for their continual measurement and improvement. It is important that when considering the improvement and optimization of the Service Design activities, the impact of the activities on all stages of the lifecycle should be measured and not just the impact on the design stage. Therefore Service Design measurements and metrics should look at the amount of rework activity and improvement activity that is needed on transition, operation and improvement activities as a result of inadequacies within the design of new and changed service solutions. More information on measurement of Service Design can be found in section 8.5.

2.4.5 Processes within Service Design

This publication details processes required in the design phase of the Service Lifecycle. These processes cannot be considered in isolation, as their true value will only be realized when interfaces between the processes are identified and actioned. The following processes are detailed in this publication:

- **Service Catalogue Management**: to ensure that a Service Catalogue is produced and maintained, containing accurate information on all operational services and those being prepared to be run operationally
- **Service Level Management**: negotiates, agrees and documents appropriate IT service targets with representatives of the business, and then monitors and produces reports on the service provider's ability to deliver the agreed level of service
- **Capacity Management**: to ensure that cost-justifiable IT capacity in all areas of IT always exists and is matched to the current and future agreed needs of the business, in a timely manner
- **Availability Management**: to ensure that the level of service availability delivered in all services is matched to, or exceeds, the current and future agreed needs of the business, in a cost-effective manner
- **IT Service Continuity Management**: to ensure that the required IT technical and service facilities (including computer systems, networks, applications, data repositories, telecommunications, environment, technical support and Service Desk) can be resumed within required, and agreed, business timescales
- **Information Security Management**: to align IT security with business security, and ensure that information security is effectively managed in all service and Service Management activities
- **Supplier Management**: to manage suppliers and the services they supply, to provide seamless quality of IT service to the business, ensuring value for money is obtained.

These are only some of the processes described in the ITIL Service Management practice guidance. All processes within the Service Management Lifecycle must be linked closely together for managing, designing, supporting and maintaining the services, IT infrastructure, environment, applications and data. Other processes are described in detail in other publications within the ITIL Service Management Practices core library. The interfaces between every process and every other process need to be clearly defined when designing a service or improving or implementing a process. These interfaces are described in detail in section 4 and include not only the interfaces to each of the Service Design processes, but also interfaces to processes within other stages of the lifecycle.

When designing a service or a process, it is imperative that all the roles are clearly defined. A trademark of high performing organizations is the ability to make the right decisions quickly and execute them quickly. Whether the decision involves a strategic choice or a critical operation, being clear on who has input, who decides and who takes action will enable the organization to move forward quickly.