

3 Continual service improvement principles

Service improvement must focus on increasing the efficiency, maximizing the effectiveness and optimizing the cost of services and the underlying IT service management (ITSM) processes. The only way to do this is to ensure that improvement opportunities are identified throughout the entire service lifecycle.

3.1 CONTINUAL SERVICE IMPROVEMENT APPROACH

Figure 3.1 shows an overall approach to continual service improvement (CSI) and illustrates a continual cycle of improvement. This approach to improvement can be summarized as follows:

- Embrace the vision by understanding the high-level business objectives. The vision should align the business and IT strategies.
- Assess the current situation to obtain an accurate, unbiased snapshot of where the organization is right now. This baseline assessment is an analysis of the current position in terms of the business, organization, people, process and technology.

- Understand and agree on the priorities for improvement based on a deeper development of the principles defined in the vision. The full vision may be years away but this step provides specific goals and a manageable timeframe.
- Detail the CSI plan to achieve higher quality service provision by implementing or improving ITSM processes.
- Verify that measurements and metrics are in place and that the milestones were achieved, process compliance is high, and business objectives and priorities were met by the level of service.
- Finally, the approach should ensure that the momentum for quality improvement is maintained by assuring that changes become embedded in the organization.

3.1.1 Business questions for CSI

The business needs to be involved with CSI in decision-making on what improvement initiatives make sense and add the greatest value back to the business. There are some key questions that

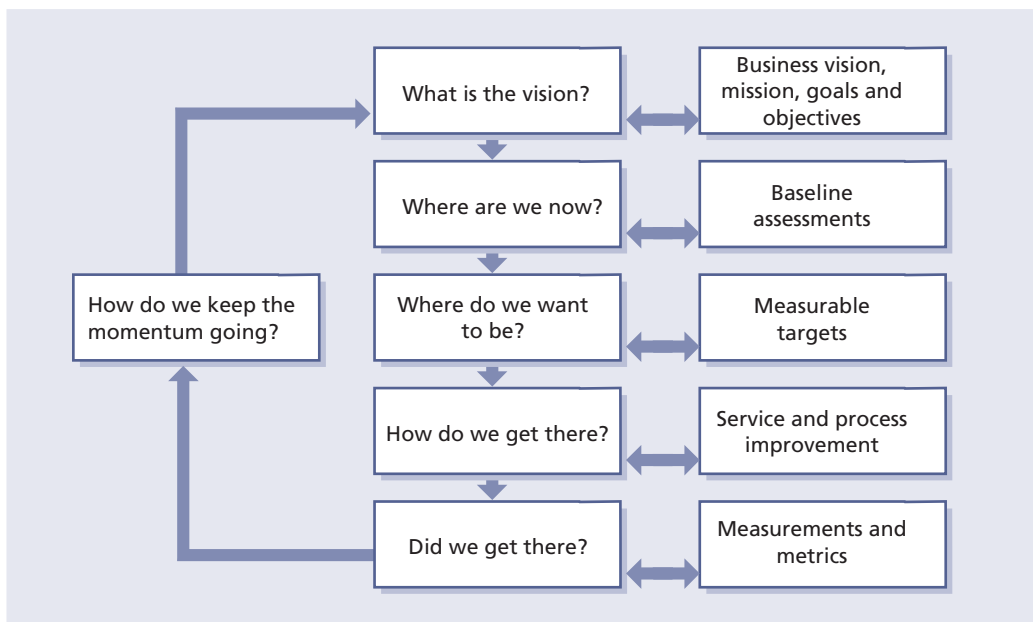


Figure 3.1 Continual service improvement approach

will assist the business in making decisions about whether a CSI initiative is warranted or not.

The CSI approach will enable the correct questions to be asked from both a business and an IT perspective. Not understanding some of these questions can lead to challenges, perceived poor service or in some cases actual poor service:

- What is the vision? The question should be asked by the IT service provider to understand what the ultimate and long term aims are.
- Where are we now? This is a question every business should start out asking as this creates a baseline of data for services currently being delivered.
- Where do we want to be? This is often expressed as business requirements.
- How do we get there? What improvement initiatives are required in the short, medium and long term? These initiatives should be logged in the CSI register (see section 3.4).
- Did we get there? This is documented through monitoring, reporting and reviewing of service level achievements and actual performance against targets identified by the business requirements.

There is a common belief that CSI activities cannot improve a service that doesn't yet exist and that the service has to be operational to identify improvement opportunities. However, CSI can add value in designing a new service by bringing the knowledge and experience from improving existing services. CSI can proactively prevent the potential flaws in the new service. CSI activities can be executed within service strategy, service design, service transition and service operation.

3.2 CSI AND ORGANIZATIONAL CHANGE

Improving service management is to embark upon an organizational change programme. Many organizational change programmes fail to achieve the desired results. Successful ITSM requires understanding the way in which work is done and putting in place a programme of change within the IT organization. This type of change is, by its very nature, prone to difficulties. It involves people and the way they work. People generally do not like to change; the benefits must be explained to everyone to gain their support and to ensure that they break out of old working practices.

One approach to managing organizational change is that of John P. Kotter. His eight-step approach to transforming an organization is discussed in detail in section 8.4.

3.3 OWNERSHIP

The principle of ownership is fundamental to any improvement strategy. CSI is a best practice and one of the keys to successful implementation is to ensure that a specific manager, a CSI manager, is accountable for ensuring the best practice is adopted and sustained throughout the organization. The CSI manager is the chief advocate and owns all CSI issues. The CSI manager is accountable for the success of CSI in the organization. This ownership responsibility extends beyond ensuring the CSI practices are embedded in the organization but also to ensuring there are adequate resources (including people and technology) to support and enable CSI. Also included are ongoing CSI activities such as monitoring, analysing, evaluating trends and reporting as well as project-based service improvement activities – activities that are fundamental to the ITIL framework. Improvement will be difficult without clear and unambiguous accountability.

While the CSI manager is responsible and accountable for CSI, the CSI manager is not accountable for improvements to specific services. Specific service improvements are the responsibility of the appropriate service owner working within the CSI framework.

3.4 CSI REGISTER

It is likely that several initiatives or possibilities for improvement are identified. It is recommended that a CSI register is kept to record all the improvement opportunities and that each one should be categorized into small, medium or large undertakings. Additionally they should be categorized into initiatives that can be achieved quickly, or in the medium term or longer term. Each improvement initiative should also show the benefits that will be achieved by its implementation. With this information a clear prioritized list can be produced. One failing that has been observed is when something has been identified as a lower priority. It never makes its way higher up the list for a further consideration, so

automated raising of priorities over time may be a useful addition to the register.

The CSI register contains important information for the overall service provider and should be held and regarded as part of the service knowledge management system (SKMS).

The CSI register will introduce a structure and visibility to CSI ensuring that all initiatives are captured and recorded, and benefits realized. Additionally the benefits will be measured to show that they have given the desired results. In forecasting the benefits of each proposed improvement we should also try to quantify the benefit in terms of aspirational key performance indicator (KPI) metrics. This will assist in prioritizing those changes that deliver the most significant incremental benefit to the business.

The CSI register provides a coordinated, consistent view of the potentially numerous improvement activities. It is important to define the interface from the CSI register of initiatives with strategic initiatives and with processes such as problem management, capacity management and change management. In particular the service review meeting is likely to result in a number of requirements for improvement.

The CSI manager should have accountability and responsibility for the production and maintenance of the CSI register.

Appendix B shows a simple example of what a CSI register could look like. Each organization should evaluate its own requirements and amend the register to suit their own purposes.

3.5 EXTERNAL AND INTERNAL DRIVERS

There are two major areas within every organization driving improvement: aspects that are external to the organization such as regulation, legislation, competition, external customer requirements, market pressures and economics; and aspects that are internal to the organization such as organizational structures, culture, new knowledge, new technologies, new skills, existing and projected staffing levels, union rules etc. In some cases these aspects may serve to hinder improvement rather than drive it forward. A SWOT analysis (examining strengths, weaknesses, opportunities and threats), discussed in section 5.5.9, may be helpful in illuminating significant

opportunities for improvement. The strengths and weaknesses focus on the internal aspects of the organization while the opportunities and threats focus on aspects external to the organization.

3.6 SERVICE LEVEL MANAGEMENT

Adopting the service level management (SLM) process is a key principle of CSI. While in the past many IT organizations viewed SLM as merely a smattering of isolated agreements around system availability or service desk calls, this is no longer true. SLM is no longer optional. Today's business demands that IT be driven by service requirements and outcomes. This service orientation of IT toward the business becomes the foundation for the trusted partnership that IT must endeavour to create. Today IT is a core enabler of every critical business process. It cannot be overemphasized that IT organizations can no longer afford to operate with a technology-only bias, but rather must consistently strive to be included in every conceivable channel of communication and level of decision-making all the way to the boardroom.

SLM involves a number of steps:

- Involving the business and determining its service level requirements (SLRs)
- Identifying internal relationships in IT organizations, negotiating the terms and responsibilities of the internal relationships, and codifying them with operational level agreements (OLAs)
- Identifying existing contractual relationships with external vendors; working with the supplier manager to verify that these underpinning contracts (UCs) meet the revised business requirements
- Using the service catalogue as the baseline to negotiate service level agreements (SLAs) with the business
- Reviewing service achievement and identifying where improvements are required, feeding them into CSI.

Once the IT organization and the business begin working together through SLM, IT management soon realizes that the old definitions of 'successful IT' are beginning to fall by the wayside. A high network availability percentage or great ratings in a customer satisfaction survey are no longer the end goal but merely positive metrics rolling

towards the achievement of a service level and the required business outcomes. IT management understands that with the adoption of SLM a fundamental shift has taken place. The definition of success in IT is both the agreed service level achieved and the resulting business outcomes achieved. IT is then structured, managed, staffed, funded and operated to meet or exceed the service levels. The service level rules and everything else are just details. The SLM process is fully defined in *ITIL Service Design*.

3.7 KNOWLEDGE MANAGEMENT

'Those who cannot remember the past are condemned to repeat it.' George Santayana

Knowledge management is explained fully in ITIL Service Transition but it plays a key role in CSI. Within each service lifecycle stage, data should be captured to enable knowledge gain and an understanding of what is actually happening, thus enabling wisdom. This is often referred to as the Data-to-Information-to-Knowledge-to-Wisdom (DIKW) structure (see Figure 3.2). All too often an organization will capture the appropriate data but fail to process the data into information, synthesize the information into knowledge, and then combine that knowledge with others to bring wisdom. Wisdom will lead to better decisions around improvement.

This applies both when looking at the IT services themselves and when drilling down into each individual IT process. Knowledge management is a mainstay of any improvement process.

3.8 THE DEMING CYCLE

W. Edwards Deming is best known for his management philosophy leading to higher quality, increased productivity, and a more competitive position. As part of this philosophy he formulated 14 points of attention for managers. Some of them are more appropriate to service management than others. For quality improvement he proposed the Deming Cycle or Circle. This cycle is particularly applicable in CSI. As already mentioned in section 2.3.2, the four key stages of the cycle are Plan, Do, Check and Act, after which a phase of consolidation prevents the circle from rolling back down the hill (see Figure 2.8). Our goal in using the Deming Cycle (or the PDCA cycle, as it is

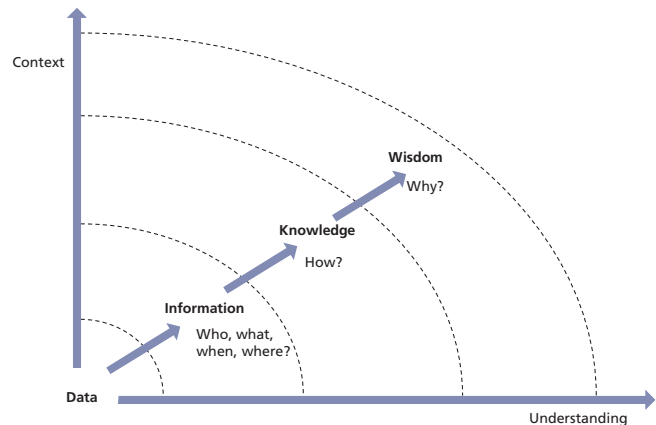


Figure 3.2 Knowledge management leads to better IT decisions

now more commonly known) is steady, ongoing improvement. It is a fundamental tenet of CSI.

The PDCA cycle is critical at two points in CSI: implementation of CSI, and for the application of CSI to services and service management processes. At implementation, all four stages of the PDCA cycle are used. With ongoing improvement, CSI draws on the check and act stages to monitor, measure, review and implement initiatives.

The seven-step improvement process fully described in Chapter 4 can be viewed as an example of an implementation of the PDCA cycle, with each of the steps falling within one of the phases of the cycle: Plan, Do, Check, Act.

The cycle is underpinned by a process-led approach to management where defined processes are in place, the activities are measured for compliance to expected values and outputs are audited to validate and improve the process.

It should be noted that the PDCA cycle is a fundamental part of many quality standards including ISO/IEC 20000.

3.9 SERVICE MEASUREMENT

3.9.1 Baselines

An important beginning point for highlighting improvement is to establish baselines as markers or starting points for later comparison. Baselines are also used to establish an initial data point to determine if a service or process needs to be improved. As a result, it is important that baselines are documented, recognized and accepted throughout the organization. Baselines

must be established at each level: strategic goals and objectives, tactical process maturity, and operational metrics and KPIs.

If a baseline is not initially established the first measurement efforts will become the baseline. That is why it is essential to collect data at the outset, even if the integrity of the data is in question. It is better to have data to question than to have no data at all.

3.9.2 Why do we measure?

As shown in Figure 3.3 there are four reasons to monitor and measure:

- **To validate** Monitoring and measuring to validate previous decisions
- **To direct** Monitoring and measuring to set the direction for activities in order to meet set targets; this is the most prevalent reason for monitoring and measuring
- **To justify** Monitoring and measuring to justify, with factual evidence or proof, that a course of action is required
- **To intervene** Monitoring and measuring to identify a point of intervention including subsequent changes and corrective actions.

The four basic reasons to monitor and measure lead to three key questions: 'Why are we monitoring and measuring?', 'When do we stop?' and 'Is anyone using the data?' To answer these questions, it is important to identify which of the above reasons is driving the measurement effort. Too often, we continue to measure long after the need has passed. Every time you produce a report you should ask: 'Do we still need this?'

3.9.3 The seven-step improvement process

Fundamental to CSI is the concept of measurement. CSI uses the seven-step improvement process shown in Figure 3.4. The seven-step improvement process is a crucial part of CSI and is described in detail in section Chapter 4 – but it is briefly introduced here so it can be seen alongside the other key principles.

3.9.3.1 Which steps support CSI?

It is obvious that all the activities of the improvement process assist CSI in some way. It is relatively simple to identify what takes place but more difficult to understand exactly how this will

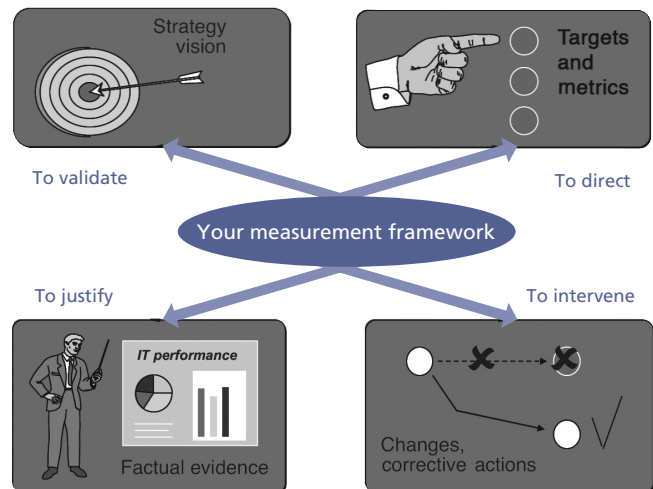


Figure 3.3 Why do we measure?

happen. The improvement process spans not only the management organization but the entire service lifecycle. This is a cornerstone of CSI, the main steps of which are as follows:

- 1 Identify the strategy for improvement**
Identify the overall vision, business need, the strategy and the tactical and operational goals.
- 2 Define what you will measure**
Service strategy and service design should have identified this information early in the lifecycle. CSI can then start its cycle all over again at 'Where are we now?' and 'Where do we want to be?' This identifies the ideal situation for both the business and IT. CSI can conduct a gap analysis to identify the opportunities for improvement as well as answering the question 'How do we get there?'
- 3 Gather the data**
In order to properly answer the question 'Did we get there?', data must first be gathered (usually through service operations). Data can be gathered from many different sources based on goals and objectives identified. At this point the data is raw and no conclusions are drawn.
- 4 Process the data**
Here the data is processed in alignment with the critical success factors (CSFs) and KPIs specified. This means that timeframes are coordinated, unaligned data is rationalized and made consistent, and gaps in the data are identified. The simple goal of this step is to process data from multiple disparate sources to give it context that can be compared. Once we have rationalized the data we can begin analysis.

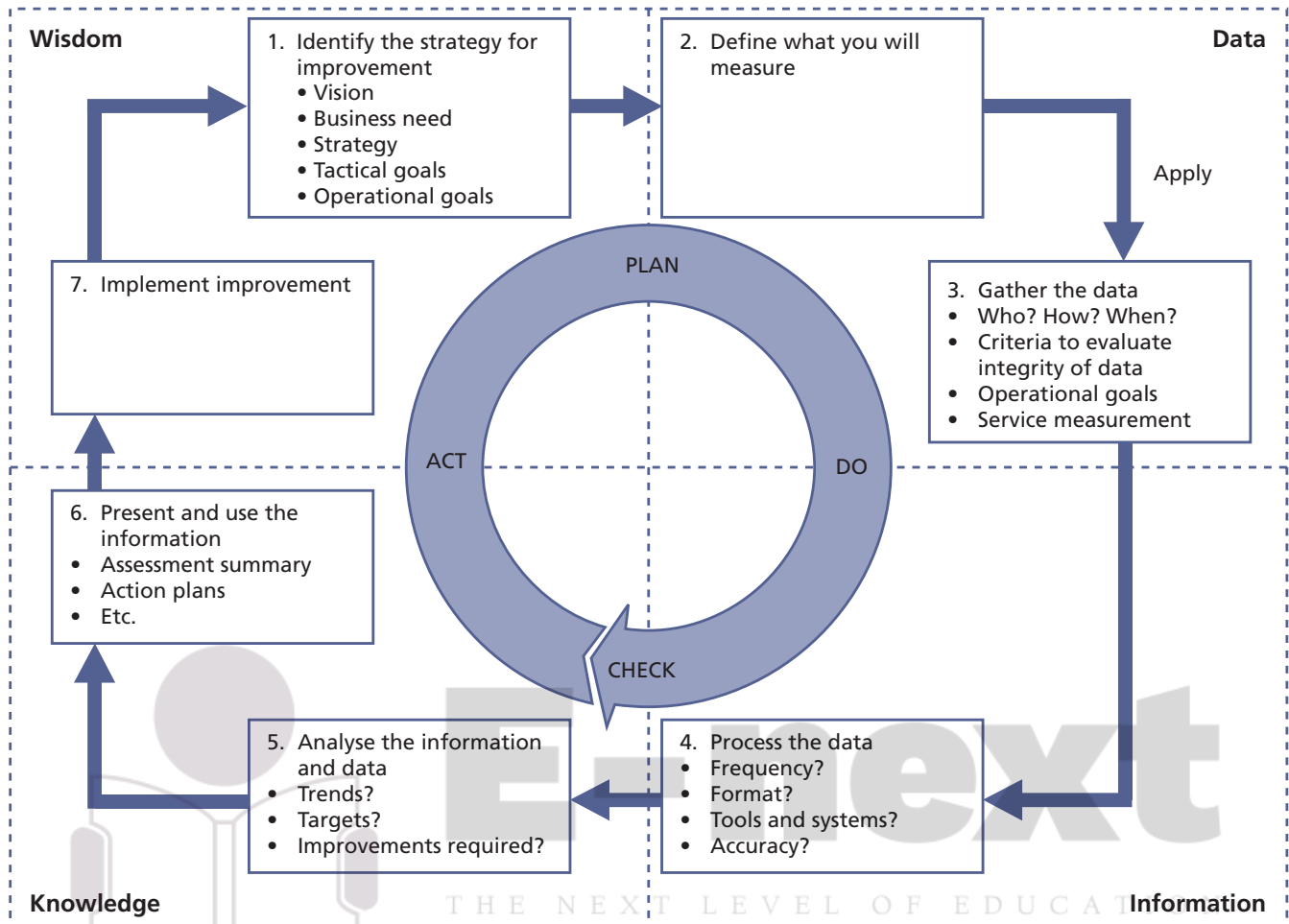


Figure 3.4 The seven-step improvement process

5 Analyse the information and data

As we bring the data more and more into context, it evolves from raw data into information with which we can start to answer questions about who, what, when, where and how as well as trends and the impact on the business. It is the analysing step that is most often overlooked or forgotten in the rush to present data to management.

6 Present and use the information

Here the answer to 'Did we get there?' is formatted and communicated in whatever way necessary to present to the various stakeholders an accurate picture of the results of the improvement efforts. Knowledge is presented to the business in a form and manner that reflects their needs and assists them in determining the next steps.

7 Implement improvement

The knowledge gained is used to optimize, improve and correct services and processes. Issues have been identified and now solutions are implemented – wisdom is applied to the knowledge. The improvements that need to be taken to improve the service or process are communicated and explained to the organization. Following this step the organization establishes a new baseline and the cycle begins anew.

While these seven steps appear to form a circular set of activities, in fact, they constitute a knowledge spiral (see Figure 3.5). In practice, knowledge gathered and wisdom derived from the knowledge at one level of the organization becomes a data input to the next.

People often believe data, information, knowledge and wisdom to be synonymous or at least broadly similar in meaning. This view is incorrect. There is

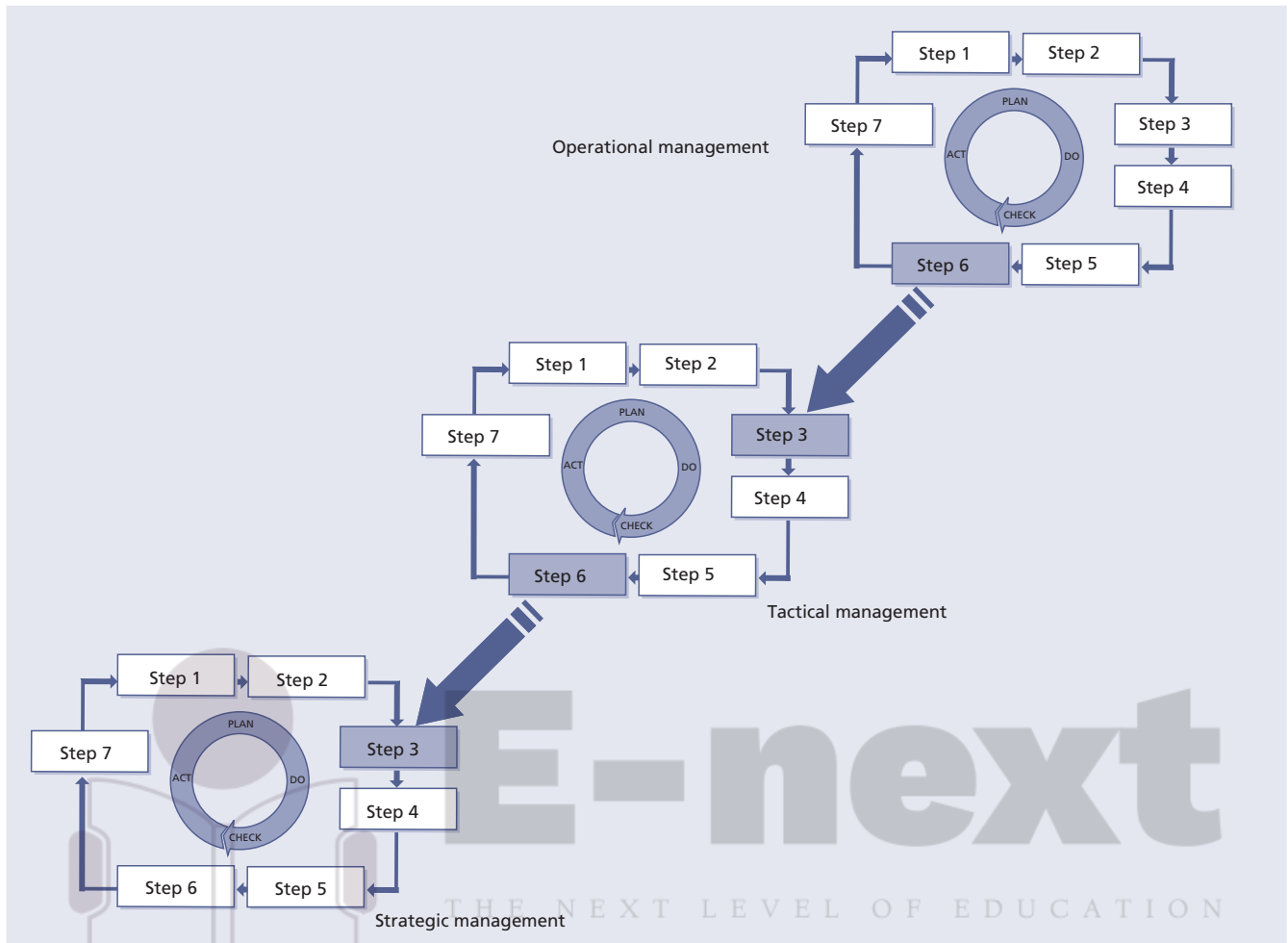


Figure 3.5 Knowledge spiral – a gathering activity

a significant difference between each of the four items.

Data is quantitative. Data is defined as numbers, characters, images or other outputs from devices to convert physical quantities into symbols, in a very broad sense. Essentially it can be defined as a collection of facts, whereas information is the result of processing and organizing data in a way that adds to the knowledge of the person receiving it. Raw data is a relative term; data processing commonly occurs by stages, and the 'processed data' from one stage may be considered the 'raw data' of the next. For example, the service desk and incident management may collect data on an average of 12,000 incidents per month. Data can also be qualitative such as comments in a customer satisfaction survey.

Data can be defined as a collection of facts in context from which conclusions may be drawn. Information is the result of processing

and organizing data in a way that adds to the knowledge of the person receiving it.

By processing data into information it is possible to know the breakdown of which customers are using the service desk and the specific issues that are incidents or service requests. For example, further processing of the data into information may show that 32% of all contacts to the service desk are 'How to' questions, and that 18% of all contacts are service incidents with the organization's email system.

Knowledge can be defined as information combined with experience, context, interpretation and reflection. For example, based on the data and information, and an understanding of who uses the service, and their reasons for using the service, the impact to the business can be determined.

Wisdom is defined as the ability to make correct judgements and decisions. It consists of making the best use of available knowledge. For example, knowledge about the customer impact of incidents

can lead to identifying improvement opportunities such as training programmes or initiating a service improvement plan (SIP) for improving the email service.

3.10 IT GOVERNANCE

IT governance is only part of an organization's corporate governance, but it is an important part. Governance is important for all organizations and will provide an environment within which CSI can operate and thrive. With the exposure of high-level corporate fraud in the early years of this century, IT was forced to comply with new legislation and an ever-increasing number of external regulations. External auditors are now commonplace in large IT organizations.

Chapter 5 of *ITIL Service Strategy* includes a detailed description of governance and how it should be applied to ITSM.

The Chartered Institute of Management Accountants (CIMA) has a framework for enterprise governance as shown in Figure 3.6, which covers the corporate governance and the business management aspects of the organization.

IT governance

'IT governance is the responsibility of the board of directors and executive management. It is an integral part of enterprise governance and consists of the leadership, organizational structures and processes that ensure that the organization's IT sustains and extends the organization's strategies and objectives.' IT Governance Institute (2003). *Board Briefing on IT Governance*, 2nd edition.

IT governance touches nearly every area detailed in Figure 3.6. On the one hand, IT organizations must now comply with new rules and legislation and continually demonstrate their compliance through successful independent audits by external organizations. On the other hand, IT organizations are increasingly being called on to do more with less and create additional value while maximizing the use of existing resources.

These increasing pressures dovetail perfectly with the basic premise of ITIL: IT is a service business. Existing internal IT organizations must transform themselves into effective and efficient IT service providers or they will cease to be relevant to

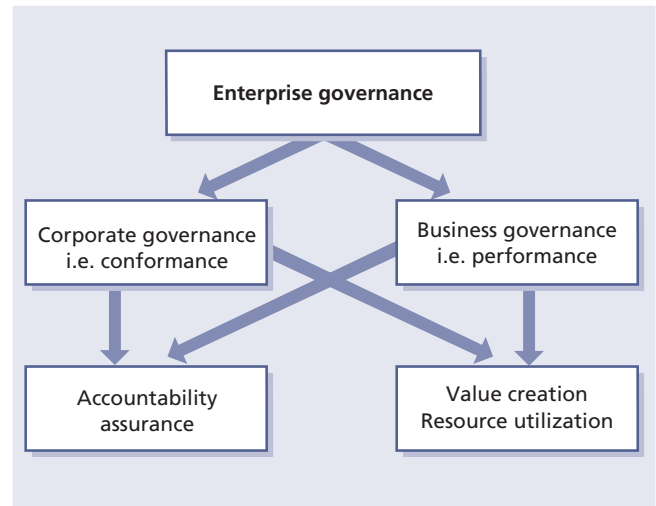


Figure 3.6 Enterprise governance (source: CIMA)

the business and, soon after, cease to exist. This continual and unceasing drive toward greater business value with greater internal efficiency is at the heart of CSI.

3.11 FRAMEWORKS, MODELS, STANDARDS AND QUALITY SYSTEMS

Appendix A gives a detailed description of related guidance and outlines the frameworks, models, standards and quality systems that an organization may choose to use in support of ITSM. As well as ITIL itself this includes:

- Quality management system ISO 9000
- Total Quality Management (TQM)
- Risk management
- Control Objectives for Information and related Technology (COBIT)
- ISO/IEC 20000 and other ISO standards for IT
- ISO 14001 – Environmental management standard
- Programme and project management including PRINCE2
- Skills Framework for the Information Age (SFIA)
- Capability Maturity Model Integration (CMMI)
- ISO/IEC 27001 – Information security management system.

3.11.1 Which one should I choose?

Experience has shown that while each may be complete unto itself, none provides a total answer for IT management. Indeed, there is a good deal of overlap between them but, for the most

Table 3.1 CSI inputs and outputs by lifecycle stage

Lifecycle stage	CSI inputs (from the lifecycle stages in the first column)	CSI outputs (to the lifecycle stages in the first column)
Service strategy	Vision and mission Service portfolio Policies Strategies and strategic plans Priorities Financial information and budgets Patterns of business activity Achievements against metrics, KPIs and CSFs Improvement opportunities logged in the CSI register	Results of customer and user satisfaction surveys Input to business cases and the service portfolio Feedback on strategies and policies Financial information regarding improvement initiatives for input to budgets Data required for metrics, KPIs and CSFs Service reports Requests for change (RFCs) for implementing improvements
Service design	Service catalogue Service design packages including details of utility and warranty Knowledge and information in the SKMS Achievements against metrics, KPIs and CSFs Design of services, measurements, processes, infrastructure and systems Design for the seven-step improvement process and procedures Improvement opportunities logged in the CSI register	Results of customer and user satisfaction surveys Input to design requirements Data required for metrics, KPIs and CSFs Service reports Feedback on service design packages RFCs for implementing improvements
Service transition	Test reports Change evaluation reports Knowledge and information in the SKMS Achievements against metrics, KPIs and CSFs Improvement opportunities logged in the CSI register	Results of customer and user satisfaction surveys Input to testing requirements Data required for metrics, KPIs and CSFs Input to change evaluation and change advisory board meetings Service reports RFCs for implementing improvements
Service operation	Operational performance data and service records Proposed problem resolutions and proactive measures Knowledge and information in the SKMS Achievements against metrics, KPIs and CSFs Improvement opportunities logged in the CSI register	Results of customer and user satisfaction surveys Service reports and dashboards Data required for metrics, KPIs and CSFs RFCs for implementing improvements

part, they are not competitive or exclusive but complementary. In fact, many organizations use a combination to manage and improve IT more effectively.

It should be emphasized that ISO/IEC 20000 (the IT service management standard) is most closely aligned with ITIL and is specifically aimed at IT service providers.

ISACA, in conjunction with the Office of Government Commerce (OGC), created a briefing paper entitled 'Aligning COBIT, ITIL and ISO17799 for Business Benefit'. Other organizations have combined ITIL, CMMI and Six Sigma as their formula for success.

Some organizations have doubts about which frameworks, models, standards or quality system to choose, not wishing to go down the wrong path. The decision is not 'Which one should I choose?' but rather 'What should I improve first?'

An effective CSI practice will be integrated within all stages of the service lifecycle. The greatest value to the business and IT will be realized by having a continuous monitoring and feedback loop as the service and ITSM processes move through the service lifecycle. Look for improvement opportunities within service strategy, service design, service transition and service operation. It is imperative that the concept of continual improvement be woven into the day-to-day fabric of the organization.

3.12 CSI INPUTS AND OUTPUTS

Table 3.1 shows the major CSI inputs and outputs, by lifecycle stage. Appendix D provides a summary of the major inputs and outputs between each stage of the service lifecycle.



E-next

THE NEXT LEVEL OF EDUCATION