



ITSM White Paper

IT SERVICE MANAGEMENT

An Overview

ISSUE 2

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1 PREFACE

The purpose of this paper is to provide the reader with an introduction to the field of IT Service Management (ITSM) using the best practice guidelines of the *IT Infrastructure Library (ITIL)*. It also explains how ProActive can assist IT service providers with the transition from a technology focused to a customer focused culture.

The paper examines the rationale behind the development of the library and provides a very brief overview of the core ITSM functions that organisations should implement to ensure the delivery of customer-focused IT services. It includes some general information on developing an implementation plan and introduces the concept of an ongoing service improvement programme.

Details are provided of formal certification options that are available for ITSM professionals and other training offered by ProActive. Contact details for the IT Service Management Forum (itSMF), the ITIL user group, are also included.

Your comments and feedback on this paper are welcomed and can be emailed to the author at: info@proactive-sv.com.au.

2 INTRODUCTION

The concept of a formal approach to the management of operational IT services was developed during the mid-1980's in response to growing concerns about the value for money delivered by IT Departments.

At that time, there had been considerable research into software development, resulting in a number of development methodologies, some proprietary and others in the public domain. One common deficiency in the methodologies that were available was the lack of any detailed guidance on the operational stage of an IT service (sometimes called the support & maintenance phase) as shown in Figure 1.

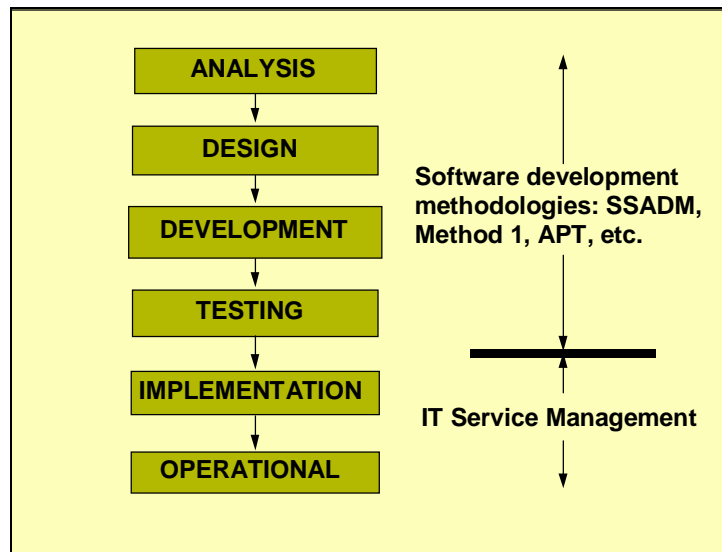


Figure 1: The Service Lifecycle

Yet it is this operational stage of the software/service lifecycle that:

- usually covers the greatest timespan;
- is when the customer business is dependent on the service and would be adversely impacted by poor service quality.

This is shown in Figure 2 below which indicates that a service that may take 1 year to develop through to live implementation will typically have a minimum operational life of 4 to 6 years and perhaps considerably longer. Indeed, the author knows of one application in Australia that has been running for 35 years, albeit with significant enhancements over this time!

It can be seen that the operational stage is the critical phase of the lifecycle and that failure to provide any guidance on managing this phase can result in unreliable, slow, and generally poor quality IT services.

In the mid-1980s, the British Government's *Central Computer & Telecommunications Agency (CCTA)* launched a major initiative to correct this lack of guidance. A project was established to discover what worked and didn't work by tapping into organisations' actual experiences. Although the CCTA was primarily concerned with the public sector, it was realised that government did not have a monopoly on good, or bad, ideas. It was important to involve the private sector in the project and also to look beyond the boundaries of the UK: to Europe and the USA.

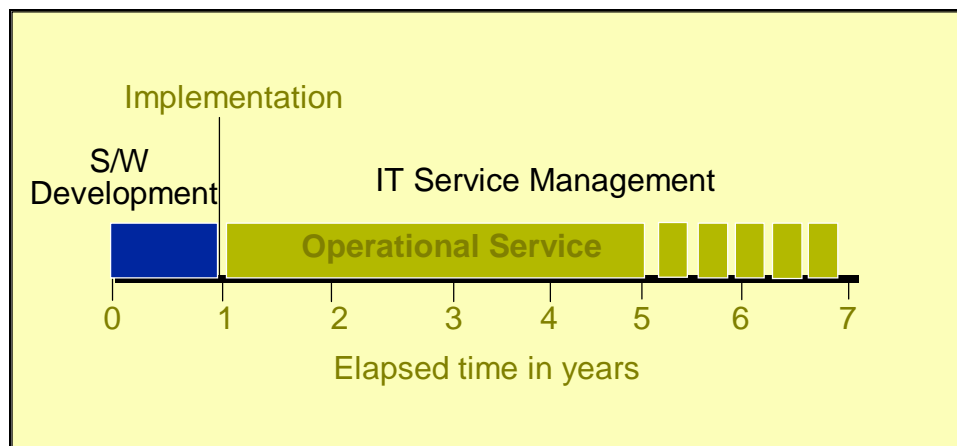


Figure 2: Example of Timescales in Service Lifecycle

The major outcome from the project has been the publication of the *IT Infrastructure Library (ITIL)*. This is a library of books providing extensive guidance on what constitutes best practice in the delivery of IT services that meet customer requirements.

The first ITIL books were published in 1989 and the library has been expanded and revised since then. The library consists of a number of component parts and is currently undergoing extensive restructuring and revision. The ITIL components are:

- Service Support:* Focusing on the day to day processes for the support of operational IT services, this component has recently been revised and published as a single volume. It is also available on CD-ROM.
- Service Delivery:* This component groups together the key processes that ensure cost-effective IT service delivery that meets agreed customer requirements. It currently consists of five separate modules but the revised guidance will be republished as a single volume during Q2 in 2001.
- ICT Infrastructure Mgt:* Currently under revision, this component covers the management of Network Services, Operations & Local Processors, together with Installation & Testing and a new topic on Systems Management.
- Managers' set:* This covers planning, organisational & quality issues and customer liaison.
- Business Perspective:* This component includes Business Continuity Management, partnerships & outsourcing and the transformation of business practices. It will be revised and republished as a single volume.
- Software Support:* Recommends an *end-to-end* approach to software acquisition or development so that adequate consideration is given to the operational phase of the lifecycle. This guidance will be expanded and republished as *Applications Management*.

The ITIL also has modules on Security Management, IT Service Management Case Studies and Business & Management Skills.

Some key benefits of the ITIL are:

- *it describes a proven practical framework* for the planning and delivery of operational IT services, based on actual experience, rather than a purely theoretical approach;
- it provides non-proprietary and impartial guidance that is applicable to both public and private sector organisations and is independent of the hardware and software being used;
- it is public domain and can be used without payment of any licence fees;
- its guidance is consistent with PD 005: *Code of Practice for IT Service Management* that forms part of the new British Standard BS 15000 *Specification for IT Service Management* (see section 0);
- it has a global network of user groups, providing peer support.

3 KEY COMPONENTS OF IT SERVICE MANAGEMENT

The *Service Support* and *Service Delivery* sets comprise the core elements of IT Service Management and form the syllabus for the ITSM qualifications described in section 0. There are other sets that are very useful, but the above sets cover the key activities that provide a secure foundation for service quality. Once this foundation is in place, other processes can be added as the ITSM capability increases.

Service Delivery

The Service Delivery functions are closely related to the annual planning cycle and ongoing review during the year and therefore form a logical grouping. The 5 functions are:

Service Level Management
Financial Management for IT Services
IT Service Continuity Management
Capacity Management
Availability Management

Figure 3 shows how these functions underpin the delivery of IT service quality.

If high quality IT services are to be provided, then it is essential to know the criteria by which this quality will be judged. *Service Level Management* is of great value because the creation of *service level agreements* (SLAs) provides a mechanism for documenting customer requirements and defining performance targets. Once agreements have been negotiated, ongoing monitoring is needed to ensure that all parties to the agreements remain satisfied.

By itself, Service Level Management cannot guarantee IT service quality and cost-effectiveness. Other activities are also required:

Financial Management is needed to determine and control the costs of providing the IT services and then, optionally, to recover those costs from customers in an equitable manner.

Capacity Management is responsible for ensuring that the IT infrastructure is of adequate, but not excessive, capacity to provide agreed levels of service. This includes planning for future changes in the business and scheduling future hardware and software acquisitions accordingly.

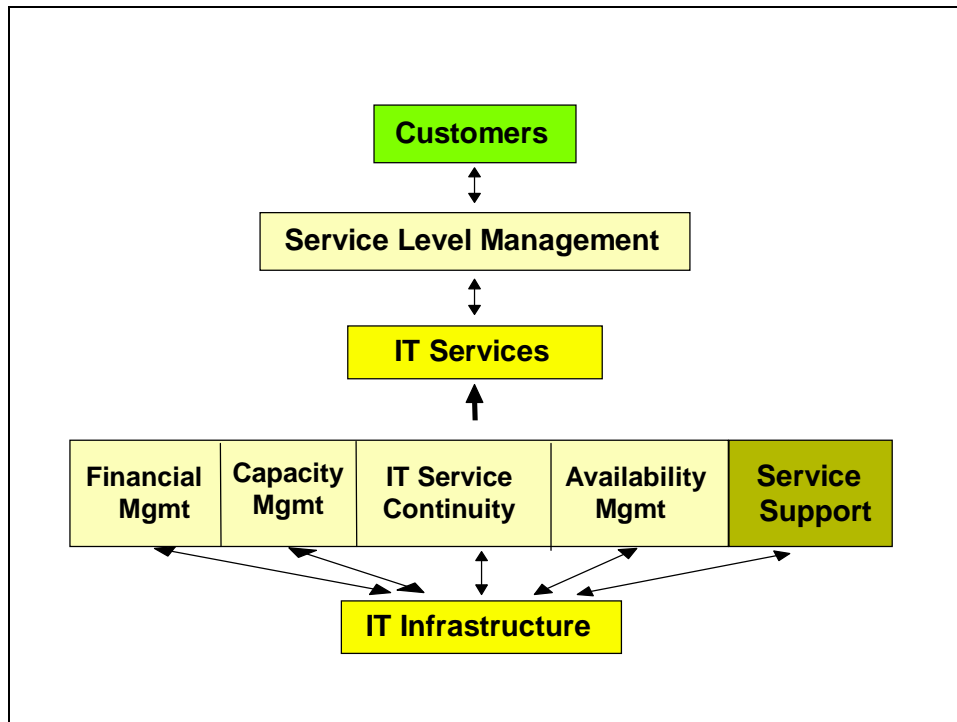


Figure 3: Service Delivery Functions

IT Service Continuity Management is concerned with taking steps to reduce risk to IT services and to have plans in place to restore an acceptable level of service to customers in the case where a total or partial disaster occurs.

Availability Management is a term used to describe the activities carried out to ensure that IT services are available to customers when they are required. It will include the monitoring of service availability and the taking of any necessary steps to improve availability.

Service Support

The ITIL describes service support as being “... concerned with ensuring that the Customer has access to the appropriate services to support the business functions.” The component covers the function of the *Service Desk* and the 5 process disciplines of:

- Incident Management* (owned by the Service Desk)
- Problem Management*
- Configuration Management*
- Change Management*
- Release Management*

The relationships between the functions are shown in Figure 4 below.

All requests for service from end-users, i.e. customers, should be captured by the *Service Desk*, which provides first-line support and provides information to the end-user domain. The Service Desk has end-to-end responsibility for *Incident Management*, even though other tiers of support may assist in resolving incidents.

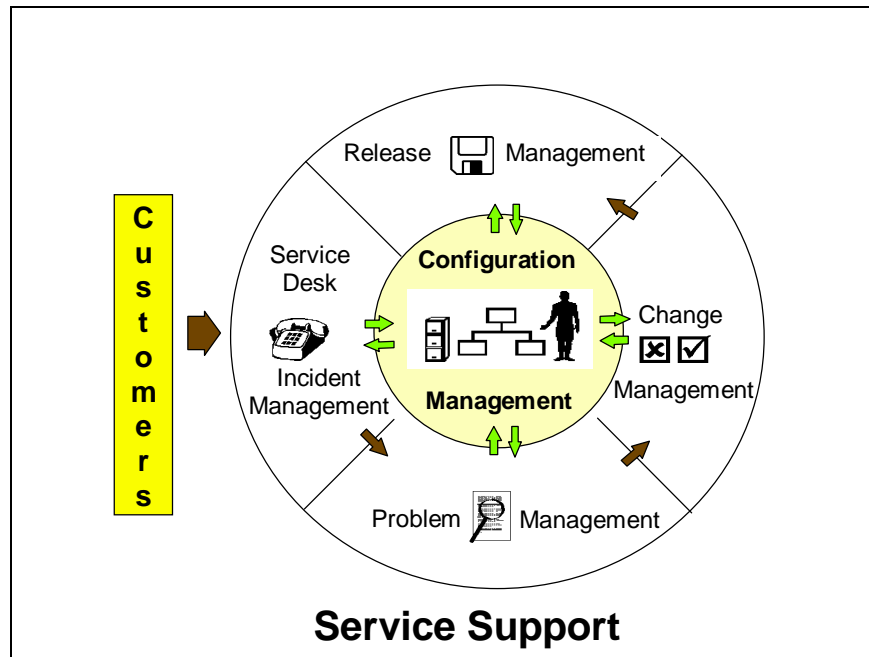


Figure 4: Service Support Functions

Calls, which cannot be resolved at first-line, are passed to Problem Management for further diagnosis. Should a new problem be identified, a decision is made on whether to fix it or to live with it (usually with an avoidance action to prevent or minimise the impact of recurrences). Problem Management also has a proactive role to identify weaknesses in the IT infrastructure, areas of concern in the service support processes and potential problems indicated by adverse trends in management reports; and to initiate corrective action to address them. Problem Management can be viewed as providing the *Corrective and Preventive Action* element of an ISO 9000 compliant quality management system for IT Services.

If a decision is made to proceed with a change, this is controlled by Change Management to ensure that the change does not have any adverse impact on services. Implementation of changes is covered by the Release Management discipline to ensure that the changes are built using the correct authorised versions of the software and hardware and are deployed as required throughout the operational IT infrastructure.

Each of the process disciplines is supported by Configuration Management and, ideally, an integrated Configuration Management database (CMDB) that can maintain the data required by each discipline.

Alignment of IT and Business Strategy

Alignment of IT and business strategies is very important to the effective use of IT services. Too often, an IT strategy is developed by the IT division with little or no input from the rest of the organisation. In effect, the IT division is acting both as a customer (in defining strategic IT requirements) and as a service provider. The business units must take more responsibility for the formulation of an IT strategy if that strategy is to support business strategies effectively and efficiently.

The Service Support and Service Delivery processes ensure that the interfaces between Customers and the IT service provider are established at the operational and tactical level. Once these are working effectively, the guidelines of the *Manager's* set can be used to establish the strategic interface as shown in Figure 5.

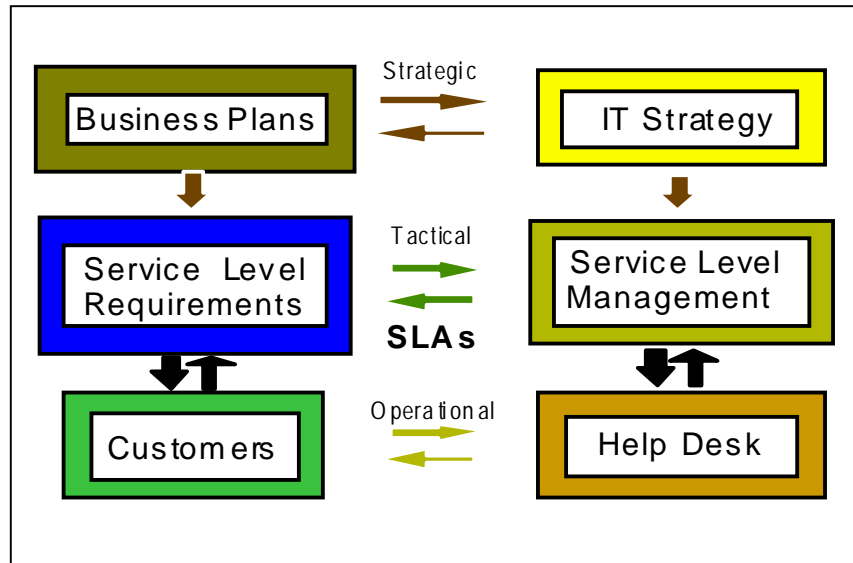


Figure 5: Aligning IT with the Business

The key objective must be to provide high quality, cost effective services that contribute significantly to the overall success of the organisation.

4 ESTABLISHING ITSM

Section 3 describes the situation where all base ITSM functions have been established and some synergy is starting to develop. For many organisations, the challenge is one of deciding where to start.

The ITIL framework recognises that different organisations will have different requirements for IT service management. This flexibility and the corresponding lack of very detailed guidance can make implementation seem a daunting prospect.

Broad ITIL Recommendations

The ITIL does suggest that the usual order of implementation is to establish the *Service Support* functions first together with the other 1st-line control functions of Network Management and Computer Operations Management. This has the advantage of focusing on the day-to-day relationship between customers and the IT service provider so that the customer will see immediate benefit.

There are some obvious dependencies. For example, Configuration Management relies on Change Management to provide control processes and should be implemented at the same time, or after, Change Management is established. Similarly, Problem Management cannot function effectively without the Service Desk and Incident Management.

It is important to ascertain what the major issues are as far as the customers are concerned and use this to determine the order of implementation. For example, if most of the problems are caused by uncontrolled change, then Change Management would be a priority. Where there is no obvious weak area, or where areas are equally weak, then the following order of implementation is suggested (Figure 6).

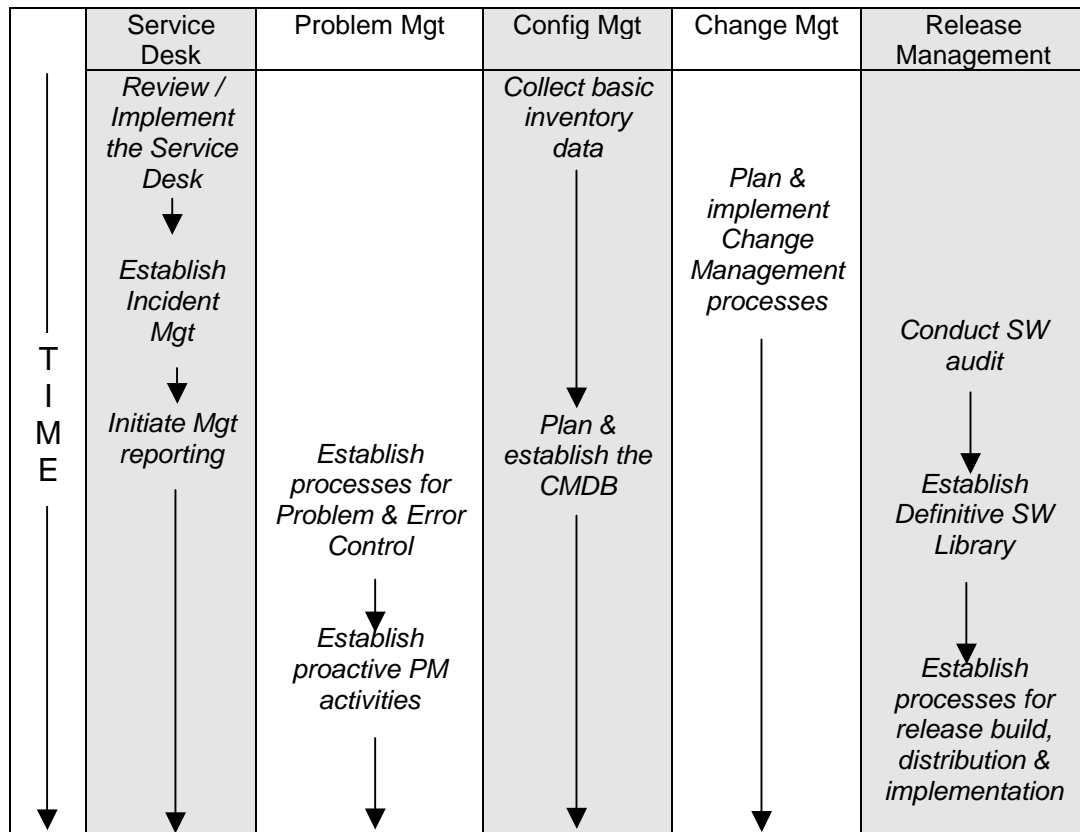


Figure 6: Possible Order for Service Support Implementation

Once the *Service Support* and other control functions have been established, the service provider is in a position to implement the *Service Delivery* processes. Again, there is no rigid order of implementation and, in practice, a significant amount of parallel activity can occur.

For example:

- 1 The development of a service catalogue is a necessary stage in the implementation of both Service Level Management and IT Service Continuity Management.
- 2 Business impact analysis and risk analysis & management are relevant to both Availability Management and Contingency Planning.

Many organisations will want to implement Service Level Management as a priority and the ITIL recognises this. However, it does recommend that at least some elements of Availability Management (reporting) and Capacity Management (performance management & application sizing) are established at the same time so that realistic targets can be agreed in SLAs, monitored and consistently achieved. It may also be necessary to produce cost estimates for different levels of service in order to select the most appropriate one. This will require some Financial Management capability.

The remaining elements of Availability and Capacity Management can be implemented at a later stage, as can more detailed Financial Management and Contingency Planning.

Figure 7 shows this approach, where activities in the different process areas may be carried out in parallel.

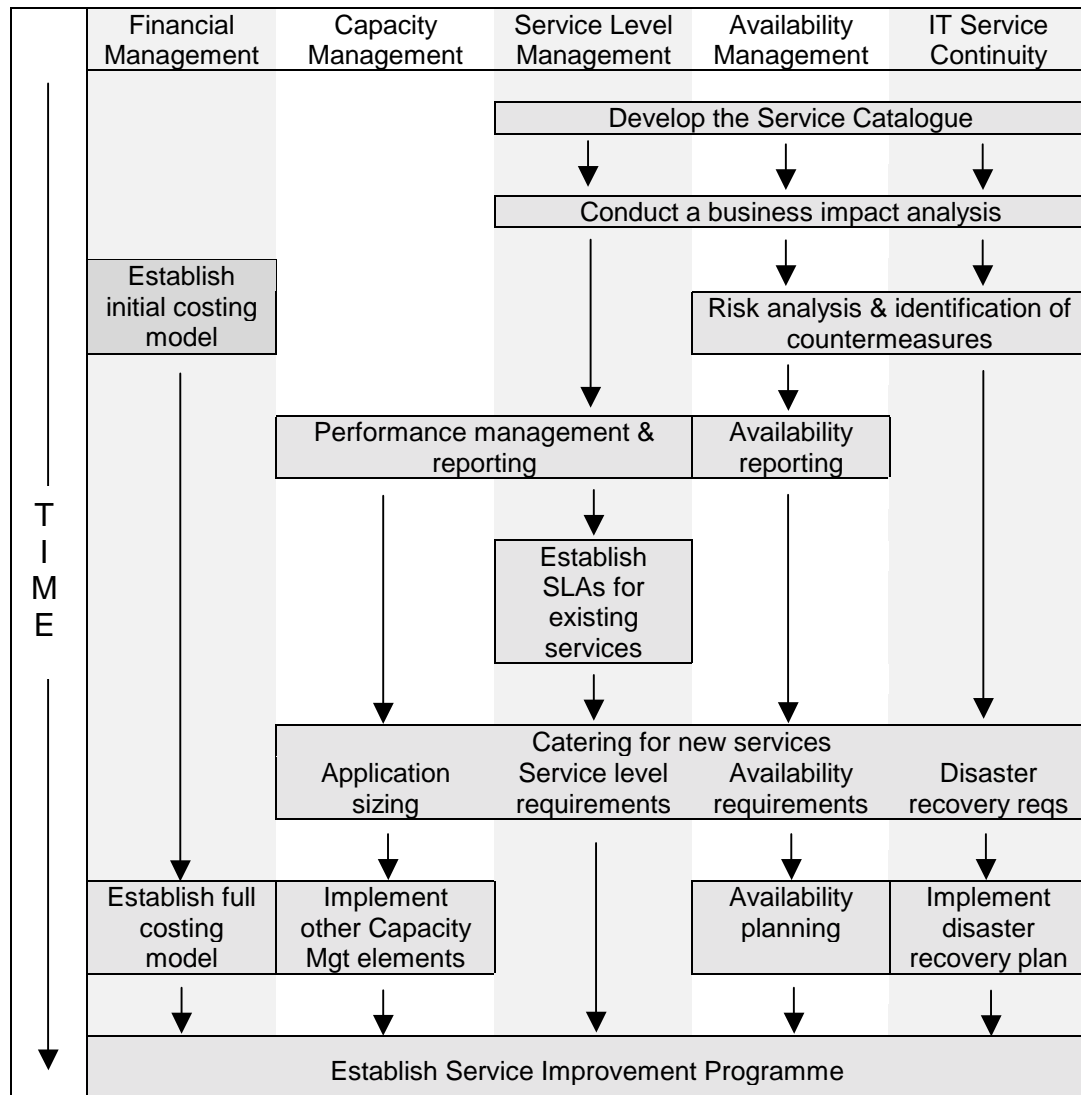


Figure 7: Possible Order for Service Delivery Implementation

Once again, the order of implementation should be decided in conjunction with the customer to ensure that the most important issues and concerns are dealt with first.

ITSM Maturity Model

The CCTA has recently introduced a capability/maturity model for ITSM, based on similar models that have been developed for software production units (CMM and SPICE). The model has levels of increasing maturity ranging from prerequisites to customer interface. (See Figure 8.)

In conjunction with this model, the CCTA have developed two self-assessment questionnaires that can be of assistance in determining an organisation's current level of ITSM implementation. Copies of the questionnaires may be obtained free of charge from the CCTA website at <http://www.ccta.gov.uk/bestpractice/index.htm>.

A service improvement programme can take the service provider beyond a maturity of 4; up towards the top level of 5, where external review and process validation occur. This is the point at which optimisation occurs and the provider is committed to ongoing quality improvement, rather than just maintaining the status quo.

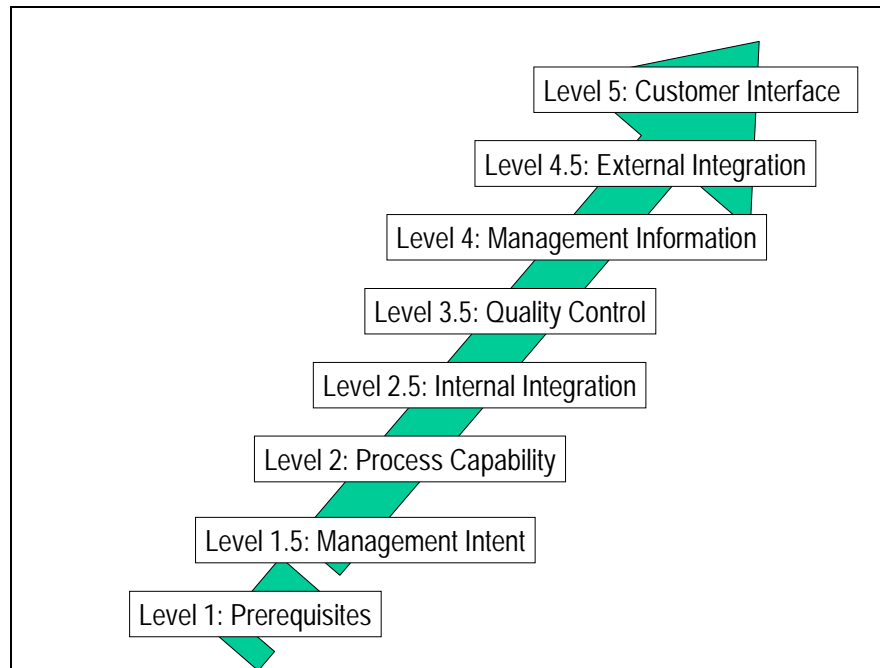


Figure 8: CCTA Maturity Model

A limitation of the CCTA questionnaires is that, once the requirements for a particular level are not satisfied, the assessment is effectively terminated. The assessed capability level is deemed to be the highest level at which the criteria were entirely met. This does not cater for the situation where an organisation is performing some activities at higher levels but missing something at a lower level and requires an overall idea of the gap between current and best practice.

BS 15000: 2000 Specification for IT service management

The British Standards Institution (BSI) published BS 15000:2000 in November 2000. The standard provides a formal basis for the assessment of managed IT services. It is intended to be used in conjunction with DISC PD0005, the BSI's *Code of Practice for IT Service Management*.

The BSI also has a *Self-assessment Workbook*, PD0015, for use with the standard in determining the conformance of an organisation's IT services to the requirements of the standard. This workbook differs from the CCTA questionnaires because it does not suspend an assessment once a particular criterion is not satisfied. Instead, for each function/process area, the Workbook has questions covering:

- Process overview
- Process scope
- Procedures
- Automation
- Control & reporting
- Auditing

ProActive, in conjunction with its ITSM Alliance partners, is in the process of developing an assessment service based on BS 1500:2000 and the associated publications PD0005 and PD0015.

Service Improvement Programmes

The ITIL recommends service improvement programmes as a formal mechanism for improving the quality of IT services. Figure 7 shows a service improvement programme as the final stage once the *Service Support* and *Service Delivery* functions have been

established. In this scenario, the programme provides a framework for ongoing continuous quality improvement.

However, there are benefits in initiating a programme at a much earlier stage. The programme can then coordinate the implementation of ITSM as well as the ongoing quality improvement that is needed to move to the higher stages of the maturity model.

Early implementation of a service improvement programme is the approach recommended by ProActive, as it has proven effective both in Australia and overseas.

5 THE PROACTIVE FRAMEWORK FOR ITSM IMPLEMENTATION

The rationale for ProActive's approach is that many organisations have a need to make rapid improvement in service quality, as perceived by the customers, whilst having to achieve this on a limited budget. For this reason, we provide a framework that allows the implementation to be broken down into manageable and affordable stages, and to prioritise these stages according to the positive impact that they will have on customer satisfaction. At the same time, the processes that are designed and implemented at each stage will cater for the requirements of future stages to avoid unnecessary duplication of work.

Our framework comprises:

- 1 An assessment of current ITSM practices against the ITIL guidelines with a gap analysis.
- 2 A customer survey to identify current perceptions and the key issues from the customers' point of view, if this information is not already to hand.
- 3 A planning workshop to develop a strategy and high-level objectives to address the issues identified in stages 1 & 2.
- 4 The establishment of a service improvement programme to develop and implement an action plan to implement the strategy.

ITSM Assessment

In most cases, the establishment of an improvement programme is preceded by an ITSM assessment to establish the current situation and to identify any shortfalls compared with the ITIL guidelines. The assessment provides an independent and objective report on the degree to which effective processes have been established and makes recommendations for further improvement. This 'gap analysis' is one of the major inputs into a programme-planning workshop (see Figure 9).

The assessment is conducted by one or more of our consultants using a series of IT staff interviews to determine which ITSM processes are established and how effective they are. The interviews are based on BS 15000: 2000, PD0005 and PD0015 (see section 0). Key customer staff may also be interviewed.

The other key input into the programme-planning activity should be the results of a recent customer survey. Where there hasn't been a recent survey, it is strongly recommended that one be undertaken as it is important that customer concerns and issues are identified and addressed by the SIP.

ProActive's ITSM Assessment service covers the functions/processes of the ITIL *Service Support* and *Service Delivery* components, together with activities such as *Security Management* and *Customer Service*. A customer survey can be undertaken at the same time if necessary.

A report is produced that identifies shortfalls and opportunities for improvement. The major findings can be presented to the management team and discussed if required.

Once the report has been read and its recommendations understood, the planning workshop should be scheduled.

ProActive has extensive experience in conducting assessments in both the public and corporate sectors in Australia. Our clients include Hazelwood Power, Boral, Hitachi Data Systems, Queensland Police Service, South East Sydney Area Health Service and the Victorian Department of Natural Resources & Environment.

SIP Planning Workshop

The planning workshop is usually a 1-day event involving the IT management team and the consultant(s) who conducted the assessment. Using the gap analysis and survey findings, the workshop can undertake a SWOT analysis and develop strategies and an action plan to address the shortfalls that have been identified.

The action plan from the planning workshop is then used to develop a service improvement programme that is tailored to the specific needs of the IT service provider and its customers. It should be remembered that the programme is an ongoing activity. The initial stages can be defined in more detail than later ones, which can remain in outline until closer to their commencement.

A formal review of the service improvement programme should be conducted at least annually to tie into the yearly planning cycle. This enables priorities to be established for the coming year and resources and budget to be allocated.

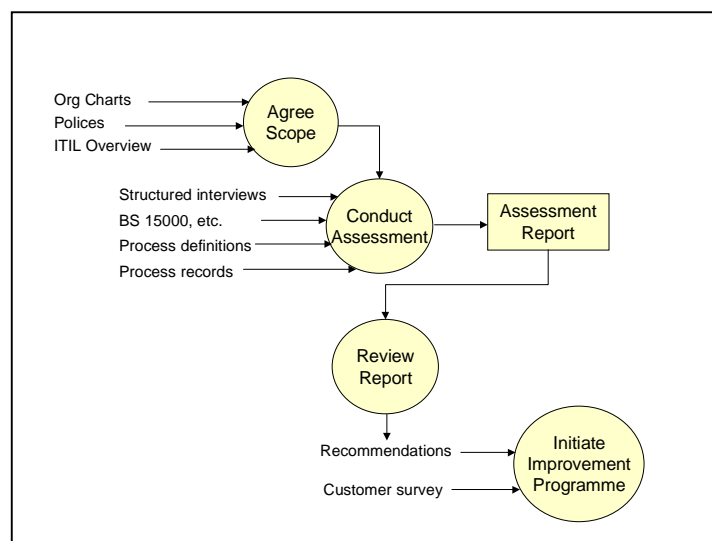


Figure 10: The SIP Planning Process

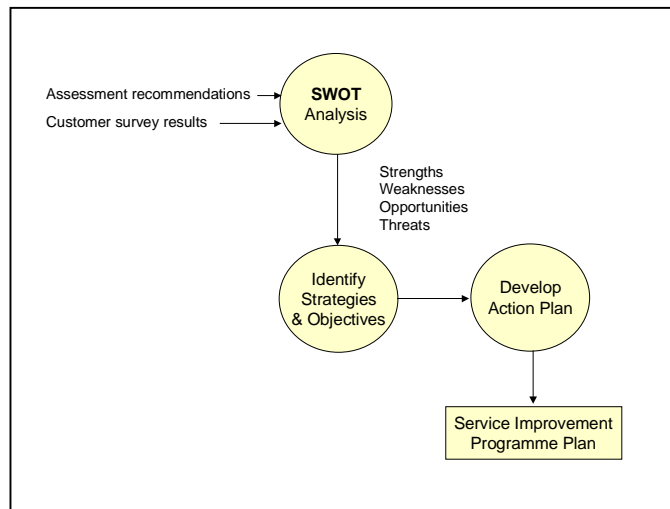


Figure 10: The SIP Planning Process

Ongoing Support for the Service Improvement Programme

We recognise that most organisations will require ongoing assistance with their service improvement programmes and this can be provided in a number of ways through our training courses, consultancy services and support tools.

5.1.1 ITSM Training Courses

ProActive offers a wide range of training courses and can tailor a training programme to meet the specific needs of our clients. A list of currently available courses follows. Full details of courses and our public course schedule can be obtained from our web site: <http://www.proactive-sv.com.au/tcbook.htm>.

<i>Certificate courses (see section 0)</i>	Service Management Essentials Service Support Service Delivery
<i>Awareness training</i>	Service Management Awareness
<i>Specialist courses</i>	Effective Help Desk Excellence in Customer Service Successful Service Level Agreements Change & Configuration Management Certified Software Manager

We believe that one of the key benefits that our courses provide is the opportunity for participants to share their experiences and concerns with others and to learn from each other. These discussions complement the formal teaching and ensure that participants gain good practical knowledge that they can put to use.

5.1.2 Consultancy Services

Our consultancy services are provided by highly experienced ITSM professionals, who are also responsible for delivering our training courses. This dual role ensures that:

- they can ensure effective ITSM skills transfer to the client's staff
- they are conversant with the latest developments in ITSM through their research and regular contact with organisations implementing ITSM

Our focus on skills transfer ensures that the client organisation is capable of maintaining and improving its ITSM processes once the consultancy service has been concluded. Of course, our consultants remain available to provide further assistance as required but we feel that it is important that the client retains full ownership and control over its processes.

The type of consultancy provided will vary according to the specific needs of the client organisation. Typical examples might be: detailed health checks of ITSM functions, process design, support tool evaluation, process benchmarking, etc. Australian clients who have received one of more of our ITSM consultancy services include: Vodafone, Hazelwood Power, Queensland Department of Natural Resources and Tabcorp.

5.1.3 ITSM Support Tools

The consultancy and training provided by ProActive is based on the ITIL guidelines and is completely independent of the hardware and software used by the client. We have worked with a variety of IT infrastructures and support tools used by our Australian client base and recognise that each client has different needs.

This experience means that our consultants can assist with the objective & impartial evaluation and selection of the most appropriate tool(s) to support an organisation's ITSM processes.

6 THE WORLD OF ITSM

When the CCTA developed the ITIL, a second key objective was to ensure that the books, once published, did not sit on bookshelves gathering dust. It was important to create an environment that encouraged take up of the guidelines by a broad range of organisations.

The 3 major initiatives in this area were:

- 1 The development of accredited training courses and a certification process to ensure that staff and consultants engaged in the implementation of ITSM processes are competent and have a clear understanding of the ITIL guidelines and their application within organisations.
- 2 The involvement of the private sector in ITSM training, consultancy and the development of ITIL-compliant support tools.
- 3 The formation of the IT Service Management Forum (itSMF) as a user group to promote IT Service Management.

ITSM Training and Certification

There are a number of organisations offering training courses based on the ITIL guidelines. Some of these courses lead to recognised qualifications and others are dedicated to specific ITSM functions.

There are 2 levels of certification:

Foundation Certificate in ITSM: Awarded upon success in a multiple-choice examination after a 3-day course that provides an overview of the core ITSM processes. This level of accreditation is intended for staff at team-leader or similar level, working in an organisation that is implementing ITSM. It is also a prerequisite for the Manager's Certificate.

Manager's Certificate in ITSM: Awarded after attending two 1-week courses and passing two 3-hour written papers. This level of accreditation is intended for senior staff or consultants with responsibility for implementing and/or managing ITSM functions within an organisation.

Both levels of accreditation are available in Australia, through ProActive.

itSMF International

The IT Service Management Forum (itSMF) operates in a number of countries under the umbrella organisation itSMF International. The original organisation was formed as the *IT Infrastructure Management Forum (itIMF)* in the UK in 1992. The name change occurred in 1997 to reflect its service focus. Individual forums operate in the UK, the Netherlands, USA, Australia, South Africa and Switzerland/Austria/Germany.

itSMF Australia was launched in May 1998 and runs seminars in Sydney, Melbourne and Perth that are coordinated by a national committee. An annual conference is also held in May of each year. These events offer members and guests the opportunity to hear about new developments in ITSM, learn from organisations that have implemented ITSM processes and network with other professionals.

For further information on the itSMF, please contact:

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Web site: <http://www.itsmf.org.au/>

7 SUMMARY

IT Service Management (ITSM) provides a comprehensive framework to deliver high quality, cost effective IT services that are closely aligned to the needs of the customer. The IT Infrastructure Library (ITIL) is an invaluable source of impartial and non-proprietary guidance that is gaining worldwide acceptance by ITSM practitioners.

There is no 'standard' route for the implementation of ITSM. Some possibilities have been discussed in section 0 but it is important to recognise that each organisation must determine its own priorities that focus on addressing any issues identified

Organisations implementing ITSM can obtain assistance from a number of sources:

- 1 By purchasing relevant ITIL books, particularly those in the Service Support and Service Delivery sets. The books are published by the Stationery Office (previously HMSO) in London and are available in Australia through ProActive.
- 2 By training staff in ITIL concepts to Foundation/Manager's Certificate level
- 3 By employing the services of consultancy firms that have ITIL qualified staff
- 4 By joining the itSMF and networking with other organisations using ITSM.