IT Service Management Tools

Information Technology Infrastructure Library (ITIL)
Compatibility Considerations

Product: **PinkVerify™**

Operating Company Pink Elephant Inc.
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Table of Contents:

Revision Date	Description	Author
V 1.6	**Production Document**	**Troy DuMoulin**
V 2.0	**Revision to original to incorporate new ITIL information, Availability Management, some QA changes**	**Victoria Gray**

1. Introduction

Over the last 15 years, the growth of Information Technology has driven many changes within traditional business structures. Market globalization and diversification have required businesses to become increasingly dependent on IT for the delivery of core business services. The advent of e-Business, distributed Wide Area Networks, Intranets, wireless communication and Enterprise Resource Planning software have placed increasing demands on organizations to expand their IT service management strategies from an operational level to a tactical and strategic level. The increased complexity and distribution of the IT environment has made the efficient management of the IT infrastructure and its services almost impossible without the aid of specialized tools. To enable businesses to achieve their goals and objectives, IT needs to be strategically involved. To achieve true business and IT alignment, IT must change its focus from traditional systems management towards an end-to-end service management model. Care and attention needs to be given to a holistic approach of balanced development and retention of processes, people, and technology.

The purpose of this document and the PinkVerify™ service is to provide best practice guidance for tool vendors seeking to make their products ITIL (Information Technology Infrastructure Library) compatible. ITIL gives guidance in this area by listing functional automation requirements for the ten core service management processes, as well as specifically through two books, IT Infrastructure Support Tools and Service Delivery Tools. These books assist organizations in determining what functionality and level of integration a tool should facilitate in order to underpin ITIL processes. An ITIL compliant service management tool can act as an enabler for the interrelationships of core business processes and IT services. A tool which underpins the functionality and integration requirements of best practice ITIL processes will assist organizations to increase service quality, and overall management of the IT infrastructure. Through the optimization of process, people, and technology, IT can act in strategic partnership with its clients.

1.1. Service Management Software Tools

Efficient management and delivery of IT systems and services requires a mature approach and application of a proven IT service management framework. (The most widely accepted such framework available today is ITIL.) Equally important is the task of ensuring that IT organizations are equipped with the right tools. This document will address the following questions:

- What are the technological functionality requirements for underpinning ITIL processes?
- Real IT service management benefits are realized through process data integration. How can automation of data integration assist organizations in achieving their organizational objectives?

The sophistication, complexity, and integration of functional tool requirements should be driven by defined IT processes. Too often organizations experiencing difficulty in delivering IT services look to technology as a silver bullet to cure their pain. A large amount of money is spent on hardware and software solutions, which may or may not be a proper fit for the organization. This results in the tools being misused, incorrectly configured, or underutilized due to a lack of defined processes.

Software and hardware tools are important and indispensable assets in IT dependent organizations. The starting point should always be to first look at the way the IT processes work. As more organizations realize this fact, they are looking to ITIL to provide an industry best practice model for determining tool selection criteria.

Why the need?

- More sophisticated customer demands
- Increased core business dependence on IT services
- IT skills shortage and the need to capture and reuse knowledge
- IT budget constraints - the need to cost justify IT spending and relate to business benefits
- Improved customer service requirements
- Increased security considerations & requirements
- Integration of multi-vendor environments
- Increasing complexity of IT infrastructure
- Increased focus on contingency planning and disaster recovery
- Emergence of 'recognized' and 'adopted' international standards
- Increased scope & frequency of IT changes
- Increased demands on IT to provide return on investment
- Increased requirements for sharing data between IT service management processes

Automated tools allow:

- IT to develop a strategic partnership with business by enabling the efficient delivery of business processes
- The collection of qualified, trusted, accurate and up to date information for management decisions
- Faster ability to analyze and present management information to underpin decision-making
- Centralization of key functions
- Automation of core IT service management functions
- Integration of IT service management data
- Analysis of raw data and trend identification
- Identification of preventive measures to be implemented
- Assistance with service improvement plans
- Management of growth
- Insight into cost of delivering IT services
- Reduction of risk and uncertainty (better knowledge of services)
- Timely and efficient handling of threats to the IT infrastructure

Document Map:

To facilitate the exploration of this topic the following document is broken into three sections

- Best Practices Surrounding ITIL Compliant Service Management Tools
- Description of the PinkVerify™ certification service
- Introduction and overview of ITIL

2. ITIL Service Management Tool Best Practices

Software tools used in a company committed to quality IT service management should be capable of underpinning processes in conformity with the practices presented in the IT Infrastructure Library (ITIL). The books, IT Infrastructure Support Tools and Service Delivery Tools, are available from the OGC (Office of Government Commerce, UK) for the guidance of organizations wishing to select service support and delivery tools, or tool vendors wishing to develop software solutions compliant with ITIL process models. These books provide detailed data flow models for each of the 10 core ITIL processes, interrelationships between the processes, and best practice guidance for selecting and configuring an IT service management tool.

The following bullet points are a sample list of best practice requirements that ITIL suggests organizations consider when evaluating the functional abilities of a service management tools.

- Has a careful evaluation of tool requirements been performed before selection?
- Are the mandatory and functional tool requirements based on a defined IT process?
- Are all mandatory requirements covered?
- Does the tool provide a minimum of eighty percent compliance for all operational requirements?
- Does the tool require extensive product customization?
- ITIL compliance? (functional compliance listed in the books listed above)
- Does the tool satisfy current and future business requirements?
- Does the tool provide the required interfaces with systems management tools?
- Does the tool provide the required interfaces with business process such as HR, financial management, and research and development?

Other points of consideration:

- Data structure, data handling and integration
- Integration of multi-vendor infrastructure components, and the need to absorb new components in the future – these will place particular demands on the data handling and modeling capabilities of the tool
- Conformity to international open standards
- Flexibility in implementation, usage and data sharing
- Usability – the ease of use permitted by the user interface
- Support for monitoring service levels – response and resolution
- Distributed clients with a centralized shared data base (e.g. client server)
- Web access to support functions
- Conversion requirements for previously tracked data
- Data back up, control and security.
- Customizable reporting using non-proprietary report generation tools
- Support options provided by the tool vendor
- Organizational constraints
  - Impact on the organization
  - Staff availability, experience and skill sets
  - Implementation complexity (synergistic risk)
- Costs:
  - Software / hardware (purchase and installation)
  - Licenses / training / development and customization
  - Consulting

3. Ongoing maintenance and support ITIL Service Management Process Compatibility

One of the main objectives of the ITIL service management framework is the administration of information used to manage the quality and optimization of IT services. Optimization refers to a service or process being delivered:

- At the right time
- At the right quantity
- At the right quality
- At the right location
- At the right cost

The OGC provides guidance for organizations selecting tools to underpin their IT processes by stating that a tool should support 100% of the required mandatory functional requirements and 80% of desired functional tool requirements. Pink Elephant has compiled a list of compatibility requirements from the library using this principal. The basis for mandatory functional tool requirements is taken from the OGC books covering the core processes listed in the Service Support and Service Delivery sets. Functional tool requirements for a tool at a maturity level of control are based on the OGC books, IT Infrastructure Support Tools and Service Delivery Tools, as well as the Pink Elephant Maturity Matrix. The following section will outline a sample list of compatibility criteria as described in the OGC library. Pink Elephant Inc. has based several consulting products on this principal.

3.1. Pink Elephant Services For Assessing Tool Compatibility

Name	Target Group	Output
PinkVerify™	Software Vendors	• High-level ITIL Service Support compatibility verification. • Minimum level of compatibility set at ability to underpin all mandatory functional and integration tool requirements for the Incident, Problem, Change, and Configuration Management processes. • Additional levels of compatibility can be achieved by demonstrating support for Release Management, Service Level Management, Availability Management and Capacity Management • Software tools that are able to meet the minimum compatibility criteria listed in this service will be provided a PinkVerify™ logo of ITIL compatibility.
PinkSolutions™	Software Vendors	• In-depth assessment of a software tools' ability to support ITIL processes. This product provides a detailed maturity assessment of the tool and provides recommendations for product development.
PinkSolutions™	IT Customers	• Provides assistance with the development of functional tool requirements for process support. • Gap analysis of currently installed technology • Assistance with tool selection • Gap analysis of future tools under consideration • Assistance with process mapping and tool configuration

3.2. Tool Compatibility Criteria By ITIL-Defined Process

3.2.1. Incident Management

Objective:
The objectives of Incident Management are to provide continuity to the customer by restoring services as quickly as possible, accessibility of the Service Desk for all users, and acceptability of its services.

The focus is on continuity, allowing the customer to resume business as quickly as possible.

Sample ITIL tool compatibility criteria:
- Incident records can be created, changed and deleted
- Each incident record has an unique ID
- Time and date will be automatically recorded in the incident record
- Incident records are separated from problem and change request records
- Incident records can be classified according to priority and category
- Incident records contain status information
- Incident records can be linked to configuration items
- Incident records can be linked to the caller
- Incident records can be linked to and routed to support partners
- Incident records can be associated to problem records
- Incidents are monitored and tracked against tolerance breach
- Support for notification and escalation on tolerance breach
- Provides management information about the process

3.2.2. Problem Management

Objective:
The objective of Problem Management is to ensure stability of the IT infrastructure and IT services by structurally and permanently removing the errors within the IT infrastructure.

The ITIL Problem Management process consists of four major elements: support of incident control, problem control / error control, and proactive problem management.

Sample ITIL tool compatibility criteria:
- Problem records can be created changed and deleted
- Each problem record has an unique ID
- Time and date will be automatically recorded in the problem record
- Problem records are separated from incident and change request records
- Problem records can be classified according to priority and category
- Problem records contain status information
- Problem records can be linked to configuration items
- Problem records can be linked to and routed to support partners
- The terms ‘problem’ and ‘known error’ are used as intended in the ITIL-library
- Problem records can realize a change in status to known error
- Problem records can be linked to change records
- Problems are monitored and tracked against tolerance breach
- Support for notification and escalation on tolerance breach

- Provides management information about the process

3.2.3.Change Management

Objective:
Ensuring that standardized methods and techniques are used for efficient and prompt handling of all changes in order to prevent change-related incidents.

The ITIL Change Management process provides best practice guidance to control and manage the complete lifecycle of a change request including:

- Acceptance
- Classification
- Authorization & Planning
- Coordination
- Evaluation

Sample ITIL tool compatibility criteria:
- Change request records can be created, changed and deleted
- Each change request record has an unique ID
- Time and date will be automatically recorded in the change request record
- Change request records are separated from incident and problem records
- Change request records can be classified according to priority and category
- Change request records contain status information
- Change request records can be linked to configuration items
- Assessment information can be recorded against the change request
- Change requests can be authorized or rejected
- Communication of authorization or rejection is automated
- Change coordination can be facilitated through the build, test, and implementation phases
- Change request records can be linked to and routed to support employees
- Facilitation with change scheduling
- Change records permit the recording of post implementation assessment and review information
- Changes are monitored and tracked against tolerance breach
- Support for notification and escalation on tolerance breach
- Provides management information about the process

3.2.4.Configuration Management

Objective:
The ITIL Configuration Management process provides identification, control, status accounting and verification of the components of the IT infrastructure through the management of the Configuration Management Database (CMDB)

Sample ITIL tool compatibility criteria:
- Configuration item (CI) records can be recorded, changed and deleted
- CIs can be related to each other
- Each CI record has an unique ID
- History and audit of CI record is maintained

- Recording of CI baseline information
- CI records can record various complex relationships (i.e. parent/child, copy of etc..)
- Additional CI attributes can be added
- Additional CI categories can be added
- Facilitates CMDB verification and integrity audits
- Provides management information about the process

3.2.5.Release Management

Objective:
Release Management is the planning, design, build, configuration, testing, and implementation of release packages into the live environment. Release packages include software, hardware, documentation, and procedures.

Release Management is responsible for the physical storage of all software CIs (in the Definitive Software Library) to ensure only correctly released and authorized versions of software are in use.

Sample ITIL tool compatibility criteria:
- Software can be stored in, secured, controlled, and copied from a definitive software library
- Release packages can be created, scheduled, and managed through automation
- Each release component and package record has an unique ID
- Software package records maintain version control
- Release package records are linked to the CMDB for detailed information on physical storage location
- Release package records contain status information
- Release package records contain information on the package owner
- Release packages can be linked to change records
- Support for license registration and monitoring
- Facilitation of distribution and installation of release and software packages
- Facilitation for scheduling, distribution and installation of release packages
- Facilitation for monitoring and reporting on distribution and installation
- Provides management information about the process

3.2.6.Service Level Management

Objective:
To ensure agreement to and monitoring of an optimal level of IT service in close cooperation between provider and customer.

The ITIL Service Level Management process entails negotiating, defining, contracting, monitoring and reviewing the levels of customer service, levels that are both required and cost justified.

Sample ITIL tool compatibility criteria:
- Facilitates the creation and management of an IT service catalog
- Facilitates the development of custom SLA structures
- Document management, versioning, and review cycle facilities
- Service level agreements (SLA) records can be created, changed and deleted
- SLA records contain information on IT provider and customer, services, service levels, etc..

- Service level agreement records can be linked to incidents and changes.
- Service level agreement records can be linked to tools for monitoring, measuring and registration of the performance of IT provided services
- Provides management information about the process

3.2.7.Availability Management

Objective:
To optimize IT infrastructure capability, its services and the supporting organization, resulting in a cost-effective, sustained level of service availability

The Goal of Availability Management is to understand the Availability requirements of the business and to plan, measure, monitor and continuously strive to improve the Availability of the IT Infrastructure, services and supporting organization to ensure these requirements are met consistently.'

Sample ITIL tool compatibility criteria:
- Facilitates the monitoring of the availability of individual and groups of configuration items
- Facilitates end-to-end availability management as perceived by the customer
- Facilitates historical analysis of availability data
- Facilitation of automated alerts to register availability degradations
- Integration of availability with core process tools to support the management of Service Level Agreements

4. External References

BSI (British Standards Institute) Information about Service Management Tools

Few enterprises lack some form of service management tools and many are considering replacing or upgrading those that are in use. The range and sophistication of tools for service management automation has grown rapidly in recent years.

Tools for the automation of core processes such as call logging and problem tracking have been supplemented by computer-integrated telephony, software capable of handling complex and multiple SLAs (with separate targets and business clocks) and remote support technology. Other tools include:

- Interactive voice response systems (IVR)
- The Internet, internal electronic mail, voice mail
- Self help knowledge
- Case based reasoning/search systems
- Network management tools (including remote support capability)
- System monitoring
- Asset, configuration and change management systems
- Software release and distribution systems
- Security monitoring and control, including password control, detection of violations and virus protection
- Capacity planning (modeling and forecasting)
- Contingency management (including automatic back ups)

Although some of the newer tools are not yet commonly used, there are few areas of service management that cannot be helped by automation. Some areas of service management are too resource intensive to be done effectively without automation. Each tool for the automation of service management has advantages and disadvantages but automation is still recognized as vital.

It is necessary to ensure that the combination of technology, processes and people are integrated and meet the needs of the customers. Automation should be used to enhance service management, not replace it.

Automation is increasingly being treated as part of workflow management, linking each task in the life cycle from a new service being planned through to disposal. The technology should be used to complement and enhance service delivery, not replace it.

Automation that provides support for distributed computing has revolutionized the ability of an enterprise to diagnose problems remotely, and in many cases also to fix them remotely and therefore faster. Remote support technology has also made it possible for an enterprise to make changes by downloading the new versions of software and to monitor the capacity of the infrastructure, identifying capacity problems before they become serious.

Automation has enabled easier contingency planning, with work being switched in the event of a local overload or a serious problem that has taken the service out from a specific area.

5. Management Information - Business and IT in Strategic Alignment

Timely, accurate, and reliable management information is a critical success factor for the management and control of the IT infrastructure. ITIL has stipulated that the provision of quality management information is an activity of all ten of the core IT processes. An ITIL compatible tool is required to be capable of providing the following types of information about the processes.

IT needs to have an awareness of:

- How are processes and services being experienced and perceived by its customers?
- What strategic decisions can be formulated or supported by historical data?
- Where are infrastructure adjustments required in order to align with business and customer objectives?

Quality management information equips organizations to perform the following business critical activities:

Validation
Management information provides validation for strategic decisions and projects. IT management wishes to understand if decisions that have been made historically can be validated through the production of management information.

Direction
By setting process and service goals, organizations can determine what activities, inputs, and outputs should be in place at the right quality, quantity, cost, location, and time to achieve the business goals. An IT service management tool should allow organizations to set service performance targets and quality norms for each process activity. Quality norms can then be measured by developing metrics to indicate process bottlenecks and direct improvement activities.

Justification
Management Information is developed to justify a course of action such as the removal of an unstable infrastructure Configuration Item, or the application of additional resources.

To Intervene
Management information is produced to indicate areas for intervention and alternatives to a given course of action.

Management information enables organizations to exercise control over the IT infrastructure by monitoring:

- Fulfillment or underachievement of quality and performance indicators
- Service Improvement Plans

Quality management information enables organizations to exercise control:

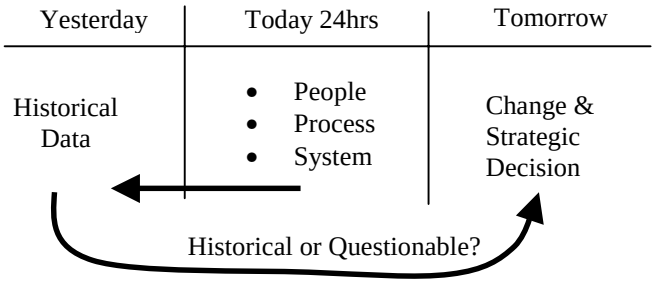
Strategically
- Impact of Incidents, Problems, and Changes on the business objectives and continuity of operation
- Sound strategic decisions for IT infrastructure and service provision
- Integrated and automated processes enable organizations to achieve growth objectives
- Understanding of ability to absorb high volume of changes

Technically
- Success of the incident, problem, and change solutions
- Reports on measurement points and performance indicators differentiated by categorization provide a picture of infrastructure health and stability

Organizationally
- Scope and impact of consequences on people and resources in the organization
- Components involved
- People and resources
- Processes and procedures
- Costing of IT services by category
- Information relating to staff skills and core competencies

5.1. Historical Data Versus Questionable Data

Management information is largely based on the collection and mining of historical data. People, processes, and systems within the IT infrastructure produce this data on a daily basis. On the basis of this data, Management Information is produced which directs change and facilitates strategic decisions. These changes and strategic decisions are based on the fact that the data on which it stands is reliable, consistent, and accurate. The fact is that if an organization produces compromised data through the use of bad processes and systems, the information that is captured for historical reference is not trustworthy and can be termed or viewed as Questionable versus Historical data.



5.2. Common Problems Without Management Information

The following list of problems is symptomatic of an organization that does not produce reliable, consistent, accurate, and, relevant management reports:

- Unclear direction or focus for improvement actions
- Limited ability to make qualified and quantified strategic decisions

- Dissatisfaction with IT provision by the business
- A significant amount of complaints about IT service provision on the part of the hands on users of IT
- Lack of communication and understanding between customers of IT service provision and IT providers
- Expenditures on the IT infrastructure are excessive or felt to be excessive on the part of the business
- Costs for IT service provision lack justification and cannot easily be tied to benefits for the business.
- Poor perceived availability of IT services
- The IT provider's responsiveness to required changes in the IT infrastructure not in line with business objectives
- IT projects are delivered late and over budget
- The business feels that provision of IT is out of control
- Etc.

5.3. Service Improvement Plans (Business & IT in Strategic Partnership)

Following the development of management reporting, an IT service management tool can assist with the development and maintenance of a Service Improvement Plan (SIP). A SIP is necessary in order to ensure that the services offered by IT match and continue to match actual business quality and performance requirements. The objective of service management is the optimal delivery and management of IT services to its clients. A long-term plan for managing the quality and performance of IT services is crucial in order to enable IT to perform as a strategic partner aligned with business objectives. To be effective the Service Improvement Plan must answer the following questions:

- Who are the customers and what are the services? (Service Level Management)
- What are the client's service requirements? (Service Level Management)
- Of which elements or components does a service consist? (Configuration Management)
- What are the quality & performance indicators for IT services? (Service Level Management)
- How are the indicators monitored, measured, and reported on? (Service Level Management)
- How are incident registrations of service degradations being resolved and tracked? (Incident Management)
- How are service improvements and required changes identified and embedded within existing services? (Change Management)

6. Best Practices Summary

Few enterprises have no IT service management tools and many are considering replacing or upgrading those that are in use. The range and sophistication of tools for IT service management automation has grown rapidly in recent years in correlation with businesses growing dependency on IT services. To ensure Infrastructure and IT service stability organizations are required to take a serious look at mapping process, people and technology.

There are few areas of IT service management that cannot be greatly facilitated by automation. Some areas of IT service management are too resource intensive to be performed effectively without assistance. Effective, and efficient delivery of IT services is dependent on the development and implementation of holistic, and balanced solutions based on the three factors listed above.

7. PinkVerify™ Service (ITIL Service Support Compatibility)

7.1. Introduction

As companies around the world transform themselves for competition that is based on intellectual capital and information, their ability to exploit intangible assets such as knowledge and business processes has become far more decisive then their ability to simply manage physical assets.

Over the past 3 decades traditional businesses have used Information Technology as a catalyst to restructure and become more competitive. Market globalization and development of the Internet Economy have placed increased demands on IT services. The demand for automation has driven businesses to progress to increasingly more complex and distributed environments in order to cope with the on-going demands of competition.

Selecting, procuring, and implementing enterprise IT service management tools to meet these needs are seen as a key success factors for organizations wishing to remain viable let alone competitive.

7.2. Objective

The objective of the PinkVerify™ service is to provide an objective, cost effective, and repeatable assessment on the ability of a software vendor's product to underpin ITIL service management processes. The PinkVerify™ service has been developed as a best-practice benchmarking product. Software vendors wishing to assess their tool's functionality in light of ITIL Service Support compatibility can use this service to gain Pink Elephant ITIL compatibility certification.

7.3. Scope

The PinkVerify™ service covers the following ITIL processes:

- Incident Management
- Problem Management
- Change Management
- Configuration Management
- Service Level Management
- Release Management
- Availability Management

Software tools, which have been verified as meeting the ITIL compatibility criteria for the Incident, Problem, Change, and Configuration Management processes, will be certified as ITIL Service Support compatible.

A PinkVerify™ ITIL compatible logo will be awarded to the software version that underwent the assessment and verification.

Additional levels of certification are awarded to those tools that meet the criteria listed in the above paragraph as well as the additional mandatory and integration requirements for Service Level, and Release Management.

8. PinkVerify Products

8.1. Self-Assessment Kit

Pink Elephant will provide a self-assessment kit to the software vendor without charge. The self-assessment kit will contain the following items:

- White paper on ITIL compliant service management tools *(This document)*
  - General guide to best practices of ITIL compatible tools
  - Description of the PinkVerify™ service
  - Overview of ITIL Service Support and Service Delivery processes and glossary of terms

- Validation questions
  - Incident, Problem, Change, and Configuration Management mandatory, integration, and functional questions
  - Release Management mandatory and integration questions
  - Service Level Management mandatory, and integration questions
  - Availability Management mandatory and integration questions

8.2. PinkVerify™ Verification

Those software vendors that wish to proceed with a Pink Elephant verification of the assessment criteria can purchase onsite verification. Pink Elephant consultants will travel to the client site to deliver an:

- Intake Meeting with stakeholders
  - Set and manage expectations surrounding the service
  - Discuss the assessment processes and assessment criteria
  - Discuss how the tool will be audited
- ITIL overview presentation
- Product demonstration and compatibility verification

8.3. Baseline Compatibility Definition

Pink Elephant has defined the word **Compatible** as the ability of a tool to underpin the criteria listed by this service to support ITIL based processes. The tool must demonstrate the ability to be readily configurable using incorporated standard utilities, and vendor provided ITIL configuration instructions. The term readily configurable does not include customizations that require scripting or code changes.

8.4. Marketing Materials

Tool vendors that have undergone a PinkVerify™ certification process and have met the criteria for ITIL Service Support compatibility will receive:

- Authorization to use the PinkVerify™ logo on their software packaging and marketing material for a specific version of software.

9. PinkVerify™ Approach

9.1. Step 1: Self-Assessment

- A PinkVerify™ validation is requested by a software vendor
- The self-assessment kit as described in section 8.1 will be made available to the vendor free of charge
- A conference call will be initiated by a Pink Elephant consultant to outline the correct procedure for completing the questionnaire
- On completion of the questionnaire, a report will be generated and sent back to Pink Elephant for review

9.2. Step2: Verification

- After reviewing the returned self-assessment, a Pink Elephant consultant will visit the client site and undertake the following activities.
  - An intake meeting with stakeholders to discuss the certification process and how the tool assessment will take place.
  - An ITIL overview for stakeholders discussing the interrelationships between ITIL processes.
  - The software vendor will be required to demonstrate the software tools functionality
  - A Pink Elephant consultant will use the PinkVerify™ criteria to conduct the assessment process.

9.3. Step 3: Certification of Compatibility

- After the assessment process is complete the data will be analyzed
- If the mandatory and integration criteria have been fulfilled, as well as 80% of the overall questions PinkVerify™ ITIL Service Support compatibility certification will be awarded.
- The software vendor will be authorized to use the PinkVerify™ logo on their software packaging and marketing material for the specific version that has underwent certification.

10. PinkVerify Scoring Model:

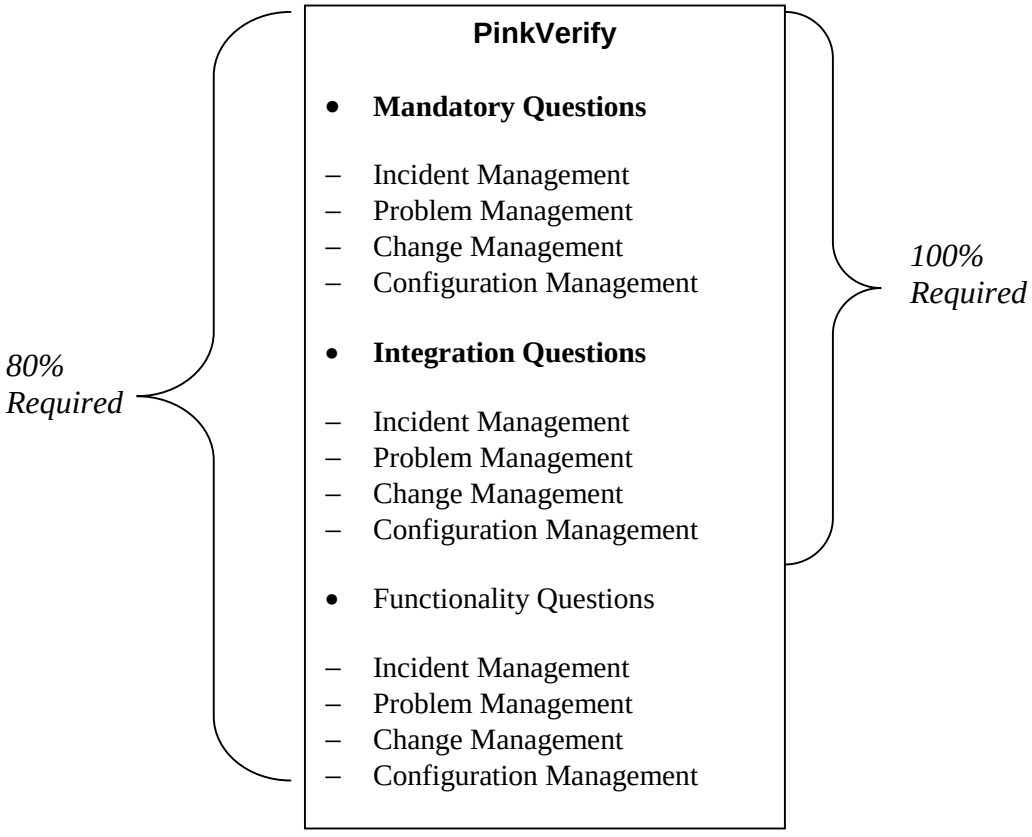
The PinkVerify™ ITIL certification service is comprised of two distinct sets of questionnaires.

1. A core set of mandatory, integration and functional criteria that must be met in order to be awarded the basic PinkVerify™ certification.
2. The non-core sets that are used in judging additional levels of ITIL Service Support compatibility.

To achieve PinkVerify™ certification, a vendor must demonstrate that 100% of the mandatory and integration criteria for Incident, Problem, Change, and Configuration Management have been successfully met. Additionally, there must be an 80% overall positive compatibility to the total questions. This includes the aforementioned mandatory and integration questions as well as functionality questions that relate to the four core processes.

To achieve additional levels of ITIL Service Support compatibility certification, there are mandatory and integration questions that have been identified for the additional processes within the scope of the PinkVerify™ service. These additional processes are Release, Availability and Service Level Management. The questions are divided into mandatory process support issues, integration questions that relate to the four core processes and integration with the other non-core process. In order to be awarded PinkVerify™ compatibility certification a score of 100% must be achieved for the mandatory and core integration questions and an overall score of 80% must be achieved.

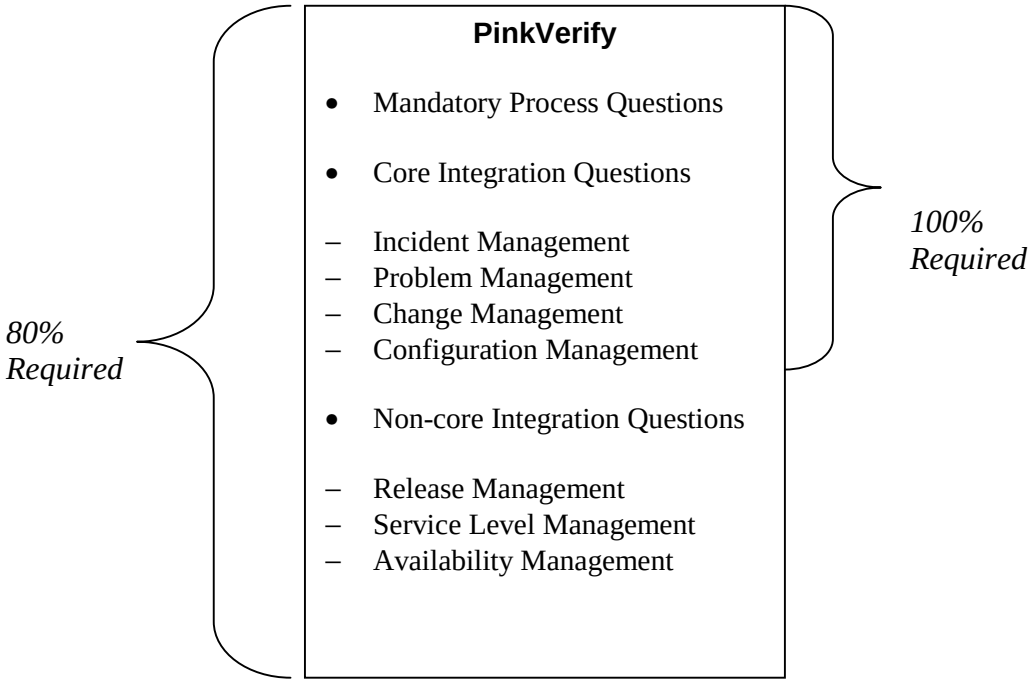
PinkVerify Core Process Example



The questionnaires for the Release, and Service Level Management processes will each have a similar layout. They are outlined as follows:

- Mandatory process questions
- Integration with each of the core processes
- Integration with the other non core process

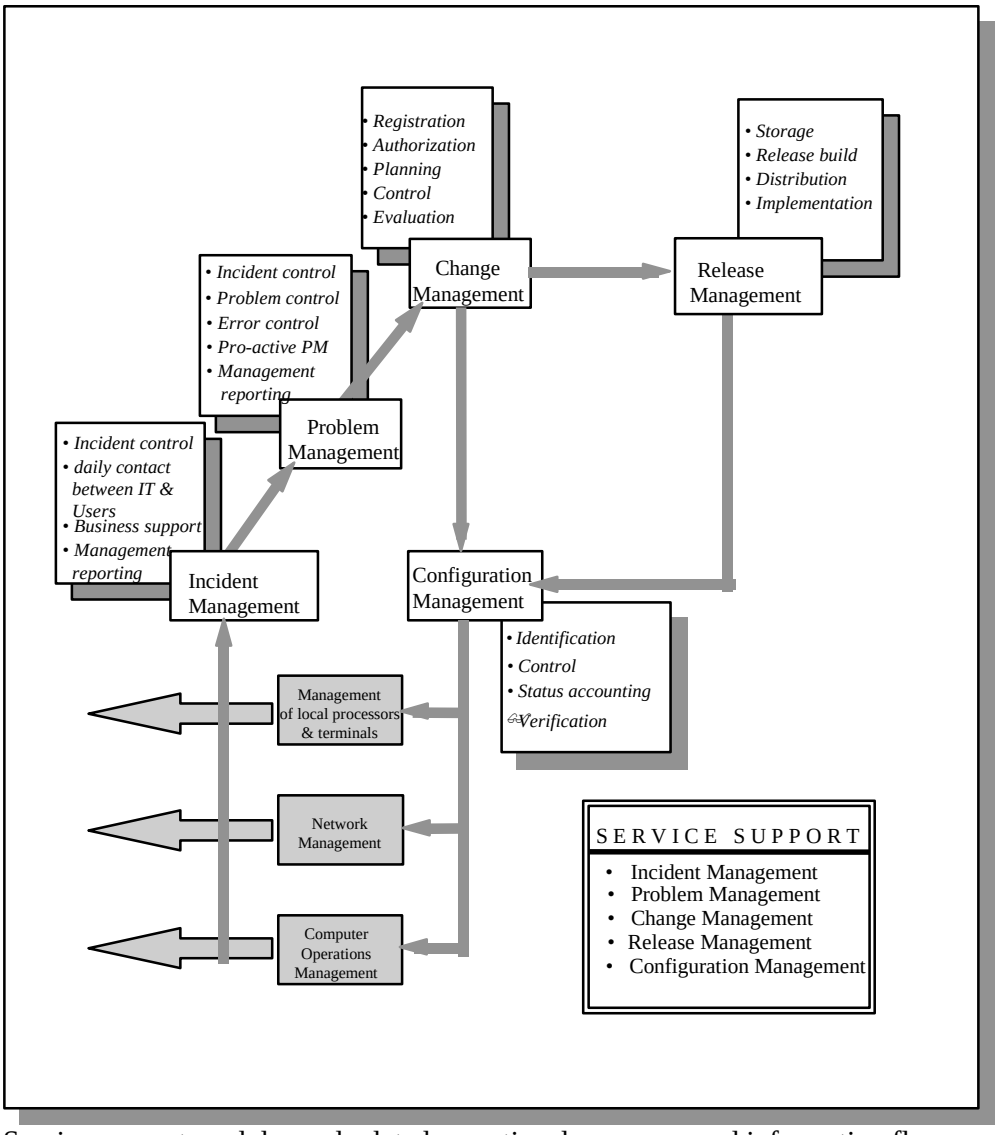
PinkVerify Non-core Processes Example



11. Work Method and definitions

The work method used for evaluation of the tool is based upon a demonstration of the tool functionality by the tool vendor. During the demonstration a series of evaluation questions are posed to determine the process functionality and integration supported by the tool.

The ITIL compatibility assessment is based upon the ability of the tool to support the process functionality and the ability to support the interaction and information flow between key ITIL processes.



Service support modules and related operational processes and information flows

The interaction and information flows recommended between the Service Support processes are represented in the following table:

11.1. Process Information Flows

Functions \ Data items	Configuration item	SLA criteria	End User details	Incident	Problem/ Known error	Request For change	Management Information
Configuration Management	C/U/R	R	C/U/R			U/R	C/U/R
Incident Management	R	R	R	C/U/R	R	R	C/U/R
Problem Management	R	R	R	R	C/U/R	R	C/U/R
Change Management	R	R		R	R	C/U/R	C/U/R
Release Management	R/U	R	R			R/U	C/U/R
Capacity Management	C/U/R	R		R	R	R	C/U/R
Network Management	C/U/R	R		C/U/R	U/R	U/R	C/U/R
Operations Management	U/R	R		C/U/R	U/R	R	C/U/R
Service Level Management	R	C/U/R	U/R	R	R	R	C/U/R
Cost Management	U/R	U/R			R		C/U/R
Availability Management	R	R		R	R	R	C/U/R

IT service management - information usage by key processes

Key: C = Create
R = Read
U = Update

- service support tool set

- other infrastructure management functions

12.The ITIL Philosophy

ITIL's existence triggered the growth of a healthy industry. The industry grew from the OGC's realization that supporting products need to be available to facilitate the adoption of the ITIL functions and from OGC's work with the Information Systems Examination Board (ISEB) in 1990 to develop the first certifications based on ITIL. With the exception of examinations -- where it was felt that a non-proprietary approach was important for credibility and wide acceptability -- the private sector was encouraged to develop supporting products in a commercial and competitive environment. Supporting products include:

- Software Tools
- Books
- Training
- Consultancy
- *it*SMF

Customers are provided with a range and selection of competing commercial products. Nonetheless, the fact that the books and examinations are non-proprietary permits the commercial products surrounding it to flourish. ITIL's independence remains its major strength.

The Information Technology Infrastructure Library (ITIL) is a set of books developed by the United Kingdom's Office Of Government Commerce (OGC). The books describe an integrated, process based, best practice framework for managing IT services. To date, these books are the only comprehensive, non-proprietary, publicly available guidance for IT Service Management.

ITIL was conceived in the late 1980. It was initiated to improve IT Service Management at the UK central government and is relevant to all organizations; public or private sector, large or small, centralized or distributed.

Today, ITIL represents more than books alone. It has generated an entire industry that includes:

- Training
- Certification
- Consultancy
- Software Tools
- Trade Association (*it*SMF)

12.1. Non-Proprietary

The OGC did not write the entire library. They approached many different organizations -- including Pink Elephant -- for assistance. Editorial boards consisting of industry experts determined the scope of the books. The books were written by one organization and approved by others. The OGC performed an editorial function and examined processes presented in the books. They ensured the processes matched any requirements from the ISO9001 quality system to ensure ITIL supported the ISO quality approach.

As a result, the books are:

1. Non-proprietary because the end results are not based on a single person or organization's view of a particular process.
2. Best practice because the books represent the experience of many IT professionals.
3. Written to quality standards because OGC ensured processes met with ISO9001 requirements.

4. Public domain because they are a Crown Copyright.

12.2. Concepts Behind The Library

IT service is usually provided by an internal department (known as the IT organization) and consists of an IT Infrastructure. The IT infrastructure is a term used to describe hardware, software, procedures, computer-related communications, documentation and skills required to support IT services. These components and their use must be managed -- hence the term IT infrastructure management. Overall, IT services and management of the IT infrastructure is referred to as *IT Service Management*. However, the terms *IT Service Delivery* and *IT System Management* are also commonly used to describe this function.

12.3. Library Coverage

The first set of ITIL books were completed in 1995. They cover *functions* of IT Service Management and provide cross-references to other books. Each book can be read and functions applied to organizations, in isolation. However, more benefit is derived from viewing IT Service Management as an inter-related set of functions. In fact, the value obtained from the whole library is greater than the value of the individual books.

Following completion of the first books, OGC initiated further guidance, complementary to the comprehensive *function descriptive* books. These titles expanded the coverage of the library and offered guidance for applying the ideas from the first set in specific environments.

12.4. Books In The Library

Five sets of books are concerned with the IT service provision and managing the IT infrastructure and three sets with managing the supporting environment infrastructure. These sets are described here:

IT Service Provision And IT Infrastructure Management Sets

Two books -- *Service Support* and *Service Delivery* -- describe key processes IT organizations must have in place to provide quality IT services for its customers. *Service Support* reviews a function and the operational processes. *Service Delivery* reviews the tactical processes. These books are described in more detail here:

Service Support
This book describes the related components that provide stability and flexibility for IT services. It deals with identifying and recording IT configuration items, incidents, problems and changes. It covers the following function and processes:

- **Service Desk (Function)**
  Service Desk is not a process but a function. The Service Desk's objective is to provide a central point of contact between users and the IT service organization. The book provides guidance about creating and operating a Service Desk to provide an efficient channel of communication between the user community and the IT provider.

- **Incident Management**
  The Incident Management process aims to restore normal service operation as quickly as possible and minimize the adverse impact on business operations. This ensures that the best possible levels of service quality and availability are maintained.

- **Problem Management**
  The process of Problem Management diagnoses the underlying cause of the incidents identified by the Service Desk. It arranges for correcting errors in the IT infrastructure and performs proactive problem prevention.

- **Change Management**
  The Change Management process ensures that standardized methods and procedures are used for efficient and prompt handling of all changes. This minimizes the impact of change related incidents on service quality. Consequently, change management aims to improve the day-to-day operation of the organization.

- **Release Management**
  Good resource planning and management are essential to package and distribute a release successfully to the customer. Release Management takes a holistic view of an IT service change and ensures that all aspects of a release -- both technical and non-technical -- are considered together.

- **Configuration Management**
  Configuration Management provides a logical model of the infrastructure or a service by identifying, controlling, maintaining and verifying the Configuration Items in existence.

Service Delivery
This book describes the processes necessary to deliver quality, cost effective IT services. It includes the following processes:

- **Availability Management**
  Availability Management's goal is to optimize IT infrastructure capability, its services and the supporting organization. This results in a cost effective, sustained level of service availability that enables the business to meet its objectives.

- **Capacity Management**
  Capacity Management enables an organization to manage resources in times of crisis and predict the need for additional capacity in advance. It describes the procedures necessary for planning, implementing and running this process.

- **IT Service Continuity Management**
  IT Service Continuity Management describes managing an organization's ability to continue providing a pre-determined level of IT service following an interruption to the business. This may

range from an application or system failure, to a complete loss of the business premises.

- **Service Level Management**
  Service Level Management's goal is to maintain and improve IT service quality. This occurs through a constant cycle of agreeing, monitoring and reporting IT service achievements. Service Level Management also instigates actions to eradicate poor service. It allows a stronger relationship to develop between IT and its customers.

- **Financial Management For IT Services**
  Financial Management is the sound stewardship of the organization's monetary resources. It supports the enterprise in planning and executing its business objectives. Within an IT organization this process is visible in three main areas: Budgeting, IT accounting and charging.

Other ITIL Books
The other sets provide essential guidance on the tasks and skills necessary to bring core functions into effective operation. Some of the sets relate to the adoption of ITIL practices within particular environments.

Manager's Set
These books are directed to senior IT service mangers responsible for a number of functional areas. They are however, likely to be of interest to all IT service managers and staff. They contain information about how to organize staff (functions and roles) as well as how to plan and manage successful relationships with suppliers and customers. These books include:

- Customer Liaison
- IT Services Organization
- Managing Facilities Management
- Managing Supplier Relationships
- Planning And Control For IT Services
- Quality Management For IT Services
- IT Infrastructure Support Tools
- Service Delivery Tools
- Data Management Standards
- Data Management
- Security Management

Software Support Set
This two-book set describes aspects of IT Service Management that relate to and impact on, software developers. The books are:

- Software Lifecycle Support
- Testing An IT Service For Operational Use

Computer Operations Set
This set is relevant to the computer operations manager and those staff involved in running large computer installations, in particular mainframe and centralized machine rooms. The books are:

- Computer Installation And Acceptance
- Computer Operations Management
- Third Party And Single Source Management
- Unattended Operating

Environmental Set
This set provides guidance about environmental issues that need to be addressed for planning, implementation and management of IT infrastructure. This is important to produce quality IT services. The sets are:

1. Environmental Strategy Set
A single book, *Cable Infrastructure Strategy*, describes the need for a strategic approach to installing and maintaining a cabling infrastructure within new and existing buildings.

2. Environment Management Set
Eight books concerned with the provision and management of the accommodation and environmental services to support the IT infrastructure. The books include:

- Accommodation Specification
- Environmental Standards For Equipment Accommodation
- Fire Precautions In IT Installations
- Management Of Electrical Interference
- Secure Power Supplies
- Specification And Management Of Cable Infrastructure
- Maintaining A Quality Environment For IT
- Management Of Acoustic Noise

3. Office Environment Set
This set includes four books that provide guidance about creating a supportive working environment in the office for customers of IT services. These books are:

- Human Factors In The Office Environment
- Office Design And Planning And IT
- Office Working Environment And IT
- Managing A Quality Working Environment For IT Users

Business Perspective Set
This series of three books addresses issues associated with IT that the business manager may have to deal with. The books are:

1. In Times Of Radical Change
This book addresses the issue of rapid and radical business change and its impact on IT. Its purpose is to help to control IT and to integrate it with the business.

2. Surviving IT Infrastructure Transitions
IT infrastructure changes can impact the manner in which business is conducted or the continuity of business operations. It is important that business managers take notice of these changes and ensure that steps are taken to safeguard the business from adverse side effects. This book is designed to help business and IT managers address their worst fears about IT transitions.

3. Understanding And Improving
This guide provides the business manager with the awareness and insight needed to play a part in ensuring the right quality of IT support is available for the business processes of the organization. It describes the responsibilities and opportunities available to the business manager to improve what is -- in most organizations -- one of the key contributing services to business efficiency and effectiveness.

12.5. Who Should Read The IT Infrastructure Library

ITIL is primarily targeted at people responsible for managing the delivery of quality IT services. However, all staff delivering IT services will find the books useful. The books help them gain an understanding of the context of their work.

IT Directors need to be aware of the books and the subjects they cover to ensure that appropriate staff within their organizations are aware of the detail. To assist when determining who should read the books, refer to the introduction where the target audience is identified.

The books are of importance to business staff -- both managers and day-to-day customers or end-users -- involved in building good relationships with their IT service providers. Software developers, maintainers and testers need to be aware of IT Service Management requirements so that they can understand their relationship with IT service managers and ensure that requirements are incorporated into new and revised products and services from the outset.

The guidance is useful to any size of organization, in both the public and private sectors. The books intentionally describe functions and staff roles rather than work groups and job titles, so that the guidance can be applied to organizations of various sizes.

All-in-all, the books are relevant to any organization that depends on IT services.

13.Benefits Of Using The ITIL Framework

Benefits
ITIL offers a systematic, professional approach to the management of IT service provision. Adopting its guidance can provide benefits such as:

- Increasing customer satisfaction with IT services
- Reducing the risk of not meeting business requirements for IT services
- Reducing costs when developing procedures and practices within an organization
- Better communication and information flows between IT staff and customers
- Standards and guidance for IT staff
- Greater productivity and better use of skills and experience
- A quality approach to IT services

There are also benefits to the customer of IT services, such as:

- Reassurance that IT services are provided in accordance with documented procedures that can be audited
- The ability to depend upon IT services, enabling the customer to meet business objectives
- The identification of contact points for enquiries or discussions about changing requirements
    - The knowledge that information is produced to justify charges for IT services and to provide feedback from monitoring of service level agreements.

ITIL emphasizes the importance of providing IT services to satisfy business needs in a cost effective manner. Many IT organizations are attempting to become more customer oriented to demonstrate their contribution to the business. The library can help IT organizations achieve this.

Organizations are encouraged to adapt the guidance to suit their needs. They are however, cautioned against omitting activities without due consideration, since IT Service Management is a set of integrated and coordinated functions. Organizations are likely to gain most benefit -- in the longer term -- from implementing all of the functions rather than some discrete functions.

Equally important, joining the ITIL *club* admits an organization to a consistent and comprehensive approach to service management ranging from software products to consultancy, training and qualifications. The common approach brings with it a common language of ITIL terms, which permits better communication between IT and suppliers.

14.Glossary of terms

14.1. Abbreviations and acronyms used

ABC	Activity Based Costing
CAB	Change Advisory Board
CCTA	Central Computer and Telecommunications Agency
CDB	Capacity Management Database
CFIA	Component Failure Impact Analysis
CI	Configuration Item
CMDB	Configuration Management Database
DSL	Definitive Software Library
EXIN	Netherlands Examination Institute for Information Technology
ISEB	Information System Examination Board
ISO	The International Standards Organization
IT	Information Technology
ITIL	Information Technology Infrastructure Library
KE	Known Error
OGC	Office of Government Commerce
OLA	Operational Level Agreement
PRINCE2	Projects in Changing/Controlled Environments
RFC	Request For Change
SLA	Service Level Agreement
UC	Underpinning Contract

14.2. Definition of terms used

Baseline	A selection from the Configuration Management database that is stored separately for a certain purpose. This purpose may be to record the construction (in part or in whole) of the IT infrastructure in a stable situation, so that it can be used to fall back on.
Change	Any action resulting in a new status of one or more of the Configuration Items
Change Advisory Board (CAB)	This board is responsible for the assessment and planning of all changes that have a more than minor impact. All persons involved and all interested parties are represented in the CAB so that the entire course of events surrounding the change can be assessed and planned.
Change Management	Making changes or having changes made in such a way as to minimize interference and irregularity in the service level resulting from these changes. For this purpose, care is taken that only tried and tested methods and techniques are used for the preparation, building, testing and implementation of new or changed Configuration Items.

Charging	To levy a fee from customers of IT service provision for their use of IT; the fee may be nominal.
CI Level	The lowest level at which identifiable items can still be uniquely distinguished.
Classification	Expressing the value of items by placing them in a certain order on the basis of category, impact and urgency. It can be used to support decisions concerning priorities.
Configuration Item (CI)	A component that is part of an IT infrastructure. CIs may vary widely in complexity, size and type – from an entire system (including all hardware, software and documentation) to a single software module or a minor hardware component.
Configuration Management	The process that brings all components of the IT infrastructure and the related documentation under control to support the other service management processes in order to provide, at reasonable costs, qualitative services in the context of continuously changing demands on part of the users.
Configuration Management Database (CMDB)	A database which contains details about the attributes and the history of each CI and details of the important relationships between CIs.
Customer	A person authorized to make decisions on behalf of an organizational unit within the business concerning a service (IT) and its associated service levels.
Definitive Software Library (DSL)	A secure software library where all versions of software CIs that have been accepted from the developer or supplier are held in their definitive, quality-controlled form (by necessity this logical library may have to occupy one or more physical locations).
Delta Release	A release that does not replace all CIs of a release unit, but rather includes only those CIs that have changed since the last version of the software.
Error Control	Correcting errors in the IT infrastructure to provide the service level agreed upon. In addition to eliminating errors, error control also comprises minimizing the negative consequences of an existing error.
Facilities Management	Placing work with an external specialist.
Full Release	A release that replaces all components of a release unit, regardless of whether or not they have changed since the last version of the software.
Service Desk	The IT provider's organizational unit, function or process that makes the IT provider accessible to IT users.
Impact Analysis	A quantitative research method in which a study is conducted into the effects that an error may have on the other parts of the configuration and the subsequent consequences for the service level, taking into account the risks of such an error occurring as well as the severity of the error.

Incident	Any event that deviates from the (expected) standard operation of a system. Such an event influences the system, even though the influence may be small or even invisible to the user of the system
Incident Control	The management of the entire course to be followed in finding solutions for all the incidents that occur.
IT infrastructure	The sum of an organization's IT-related hardware, software, data communication facilities, procedures, documentation and people.
IT service	A described set of facilities, IT and non-IT, supported by the IT service provider that fulfills one or more needs of the customer, that supports the customer's business objectives, and that is perceived by the customer as a coherent whole.
IT service provider	The role of the IT service provider is performed by any organizational units, whether internal or external, that deliver and support IT services to a customer.
Known Error	A condition in the IT infrastructure in which a certain Configuration Item has been identified as the cause of a (potential) degradation in the service level agreed upon.
Package Release	A release that includes a package of software CIs that are introduced into the test, and subsequently live, environment together.
Priority	The relative assessment of an activity in relation to other activities. The characteristic of preceding, or having priority over, something or someone else. Priority consists of impact, urgency and expected effort.
Problem	A condition of the IT infrastructure that is identified through incidents with similar symptoms, or a significant incident that is indicative for an error of which the cause is not yet known.
Problem diagnosis	The actions leading to the acknowledgement of an error, localization of the malfunction and establishment of the cause.
Problem Management	The detection and elimination of errors in the IT infrastructure.
Process	A series of actions or operations designed to achieve an end.
Release	A software CI which is introduced into the test, and subsequently live, environment. In most cases, the release will also include documentation and possibly hardware as well.
Release unit	The 'level' or 'complexity' at which software of a given type, or a particular software item, is normally released into the test and life environments – for example, a full TP system; a suite; a program; a single module.
Request for change (RFC)	The request for change states what the change comprises and to which Configuration Item the change pertains. Based on this request, the consequences are assessed and the further course of change is planned.

Service Level	The expression of an aspect of a service in definitive and quantifiable terms; specifies a term in a SLA, and quantifies its associated measure(s).
Service Level Agreement (SLA)	A formal agreement between the customer(s) and the IT service provider specifying service levels and the terms under which a service or a package of services is provided to the customer.
Software Configuration Item	A logical whole of system software or application software, if possible in the form of source code, accompanied by the corresponding documentation.
Software Control & Distribution	Securing all of the software configuration items and ensuring that only tested and correct versions of authorized software are made available to production.
Software release	All of the new, modified or existing software configuration items that are made available for use at any given time.
Urgency	The degree to which an action does not tolerate delay
User	The consumer of IT services. This consumer may originate from any of the managerial or operational levels of the organization.

14.3. Bibliography

OGC Service Support ITIL modules, published by HMSO

- Service Desk
- Incident Management
- Problem Management
- Configuration Management
- Change Management
- Release Management

OGC Service Delivery ITIL modules, published by HMSO

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

CCTA Appraisal and Evaluation Library ITIL module;

- IT Infrastructure Support Tools
- IT Service Delivery Tools