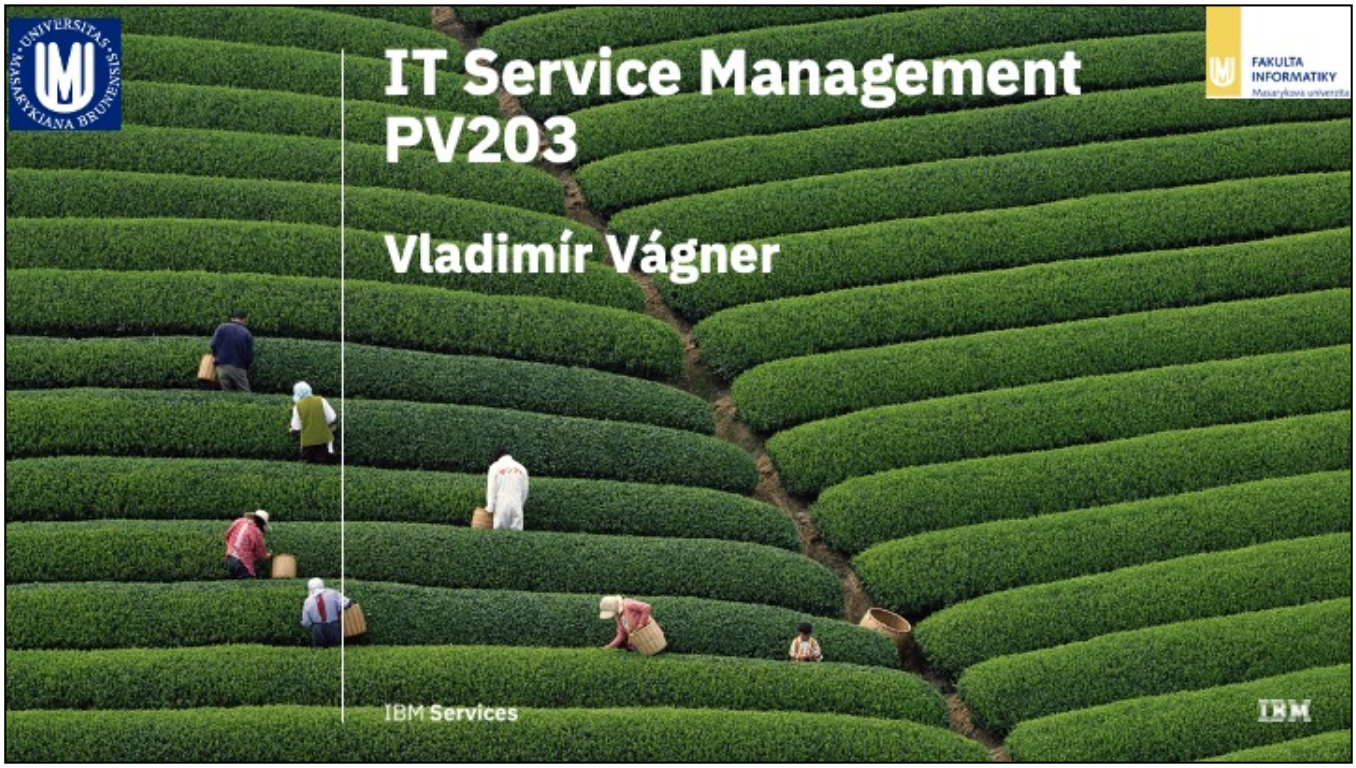
IT Service Management
PV203
Vladimír Vágner
FAKULTA
INFORMATIKY
IBM Services
IBM

About the lecturer

- Ing. Vladimír Vágner, M.B.A.
- Graduated – Vysoká Škola Báňská, Ostrava 1987
- Career
  - Steel Production Operations manager
  - IT manager
  - AT&T – The Complex Solutions Team Mngr
  - Hewlett-Packard – It Services Consulting, The European&Global Configuration Center Manager
  - IBM CIC (Customer Innovation Centre) CE - IT Service Management Manager
  - IBM CIC CE – The Solution Manager – Cross Competencies
  - Kyndryl CIC CE – The Solution Manager – CROSS Competencies

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Table of the course content

- Logistics, Intro, What is it ITSM?
- IT Services Delivery models, IT Services Outsourcing
- Customer Services in IT Services
- IT Services Frameworks (ITIL, COBIT, ISO 20000, 6sigma, eTOM, ..)
- ITIL
- ITSM in practice (tools, roles, processes etc.) - "real" example
- Future ITSM directions - hybrid services, SIAM, cognitive solutions, digital service management

- Visits to IBM CIC Brno*
- The open session

* Depends on the current situation

Logistics - start at 4pm, (optional) 15' break at 4:45pm, end ...

February	March	April	May
	9th	6th	4th
	16th	CIC visit Optional	11th
	23rd	20th	
23rd	CIC visit Optional	27th	

Kyndryl CIC Brno visit(s) - not mandatory ... recommended... however it is still open as the current situation will not allow it to happen 😟

Exam – (weeks of) May-23, May-30, June-13

The test containing

a) 15 questions with unique answer options (only 1 is correct)

b) 5 questions with more than one correct answers possibilities (tick-off boxes)

c) 3 questions with free form answers

If the exam will not be allowed to be run on site it will be run via e-form. This will be decided by the end of semester ands will be announced via e-mail.

ITSM resources :

Available at the course information on class page at IS MU
https://is.muni.cz/auth/el/fi/jaro2022/PV203/um/Source_of_knowledge.pdf

The slides (with notes) will be available after each session on class page

- Feel free to interrupt me and ask questions
- Feel free to come and leave at any time during the lesson

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Let's move to the subject of this course - IT Service Management

GENERAL ASSUMPTION

Whenever the Service or IT Service is mentioned it could be delivered either by the Internal Organization or Department or Function or by the External Vendor. Both services are valued equally. Same principle is applied in case the Customer is mentioned – we can have either the Internal Customer or the External one.

What is it - ITSM? IT Service Management

Serious topic – no jokes on Google, no funny short movies on YouTube, no Dilbert's strips.

"IT Service Mana... hmm – that handsome guy who fixed the computer and printer in my office last Wednesday?"

"Tech-support call center somewhere in India."

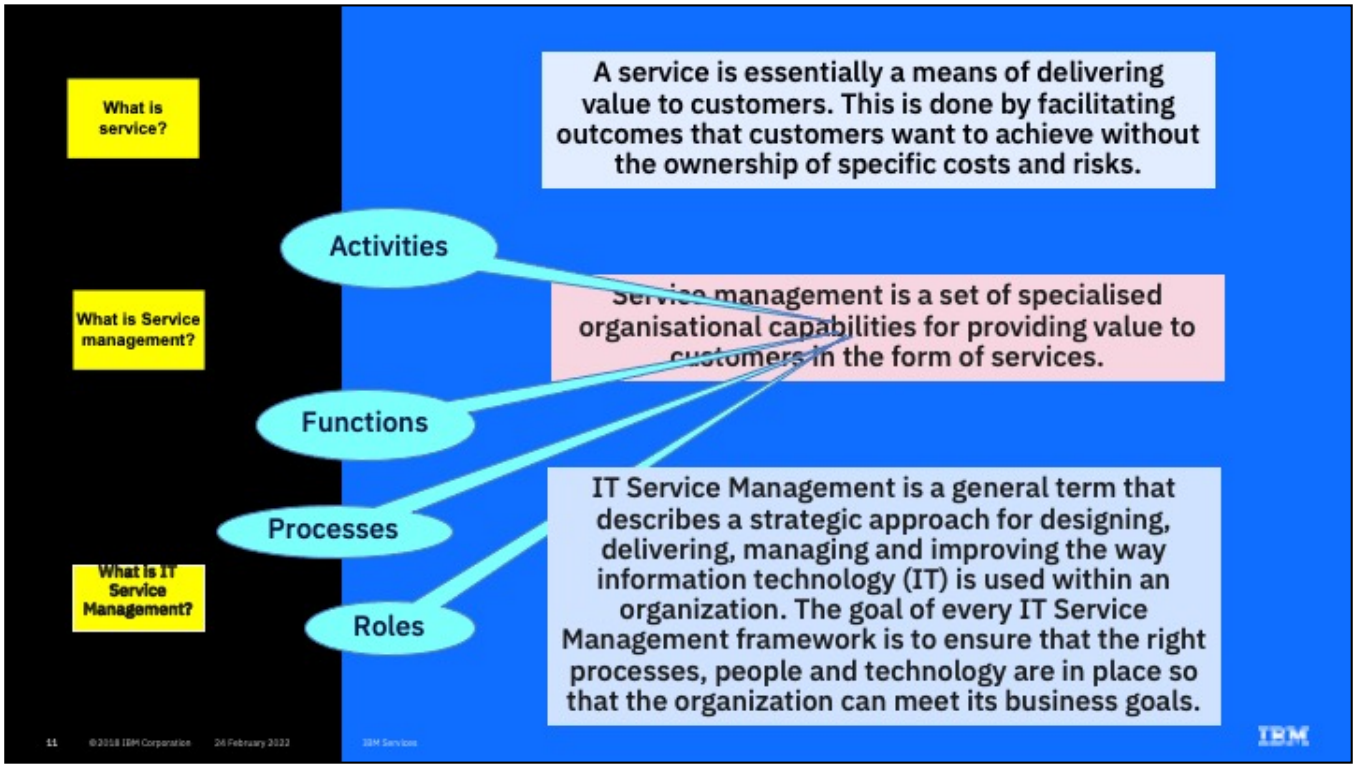
New series of The IT Crowd?

....

- ✓ **ITSM is the strategic approach to managing information technology within the organization and delivering services to customers. You might be completely unaware of the term, yet if you have IT systems in your organizations, then you are nevertheless performing ITSM.**
- ✓ **Examples of ITSM: resolving incidents or disruptions to get your business back to fully functional, budgeting and carrying through organizational change, monitoring software compliance, or any other technical necessity your business needs. But also hiring professionals, education of staff, security measures deployment, auditing of the standards, ... and much more**
- ✓ **Sound familiar? We all do ITSM...even some of us not in IT.**

ITSM can be described as...

"…a model or strategic approach for designing, delivering, managing and improving the way IT is used within an organization. The goal of ITSM is to ensure that IT services are aligned with the needs of the business and that the right processes, people and technology are in place so that the organization can meet its business goals. Simply put, ITSM is what you do to manage the services you deliver to your customers and the best practices and processes provide a framework that supports the development and management of effective ITSM."



The outcomes that customers want to achieve are the reason why they purchase or use a service. Typically this will be expressed as a specific business objective (e.g. to enable customers of a bank to perform all transactions and account management activities online or to deliver state services to citizens in a cost-effective manner). The value of the service to the customer is directly dependent on how well a service facilitates these outcomes. Although the enterprise retains responsibility for managing the overall costs of the business, they often wish to devolve responsibility for owning and managing defined aspects to an internal or external entity that has acknowledged expertise in the area. This is a generic concept that applies to the purchase of any service. Consider financial planning. As a customer, we recognize that we don't have the expertise, or the time, or the inclination to handle all the day-to-day decision-making and management of individual investments that are required. Therefore, we engage the services of a professional manager to provide us a service. As long as their performance delivers a value (increasing wealth) at a price that we believe is reasonable, we are happy to let them invest in all the necessary systems and processes that are needed for the wealth creation activities. **In the past, service providers often focused on the technical (supply side) view of what constituted a service, rather than on the consumption side.** Hence it was not unusual for the service provider and the consumer to have different definitions and perceptions of what services were provided, or for the provider to know all about the cost of individual components, but not the total cost of a

service that the consumer understood.

The Activity - the condition in which things are happening or being done.

The Function – an activity that is natural to or the purpose of a person or thing.; work or operate in a proper or particular way.

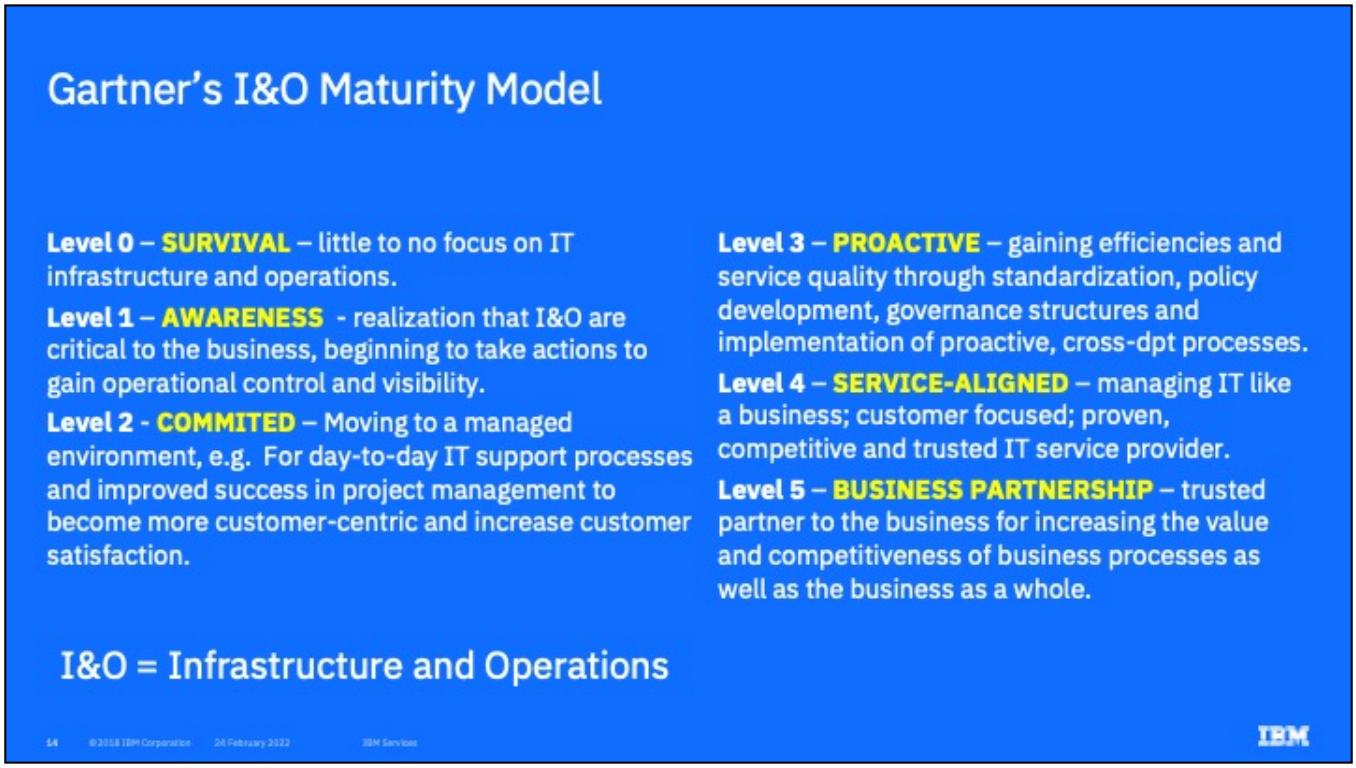
The Process – A process is a series of actions which are carried out in order to achieve a particular result.

The Role - a particular position and function in it

Service management is what enables a service provider to:

- understand the services that they are providing from both a consumer and provider perspective;
- ensure that the services really do facilitate the outcomes that their customers want to achieve;
- understand the value of those services to their customers and hence their relative importance;
- understand and manage all of the costs and risks associated with providing those services.

IT service management (ITSM) is what you do to manage the services delivered to your customers

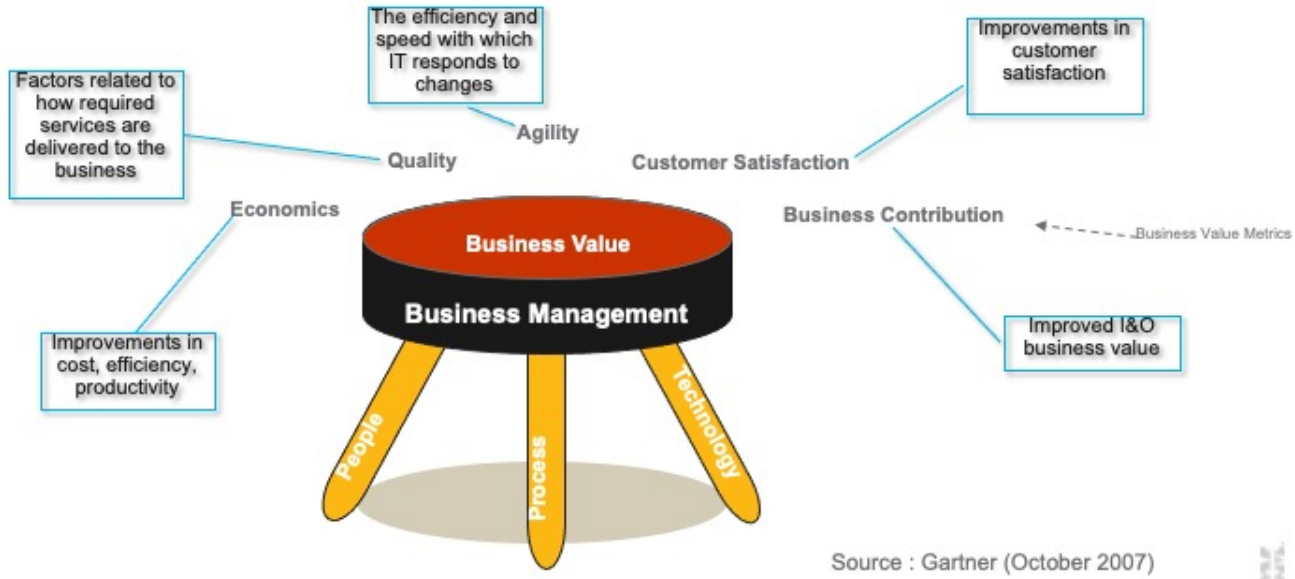


Gartner, officially known as **Gartner, Inc.** is a global research and advisory firm providing insights, advice, and tools for leaders in IT, Finance, HR, Customer Service and Support, Legal and Compliance, Marketing, Sales, and Supply Chain functions across the world.[3] They are a member of the S&P 500.[4] Its headquarters are in Stamford, Connecticut, United States. The firm changed its name from **Gartner Group, Inc** to Gartner in 2000.[5] (Wikipedia)

Gartner's IT Infrastructure and Operations (**I&O**) **Maturity Model** helps **organisations** evaluate their **maturity** with respect to people, process, technology and business management, and establish a road map for increasing **levels** of **maturity** to service alignment and partnering with the business.

The four-dimensions assessment areas for I&O Maturity Model

(a stool analogy)



Source : Gartner (October 2007)

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Gartner IT Infrastructure and Operations Maturity Model

	Survival	Awareness	Committed	Proactive	Service-Aligned	Business Partnership
People	No organizational focus on IT I&O	Defined, technology-centric organization for IT I&O	Technology-centric organization, investment in IT service desk and staff	Process-centric organization, defined governance structure	Customer- and business-focused, IT service and delivery centric organization, formal governance	Business optimization and entrepreneurial focused culture
Process	No formal IP processes for IT I&O	Ad hoc but aware that processes are necessary	Defined processes for IT service support and project management	Repeatable and individually automated, focus on IT service delivery – related IT processes	Integrated automated and extended beyond I&O, focus on all service and business mngmt processes	Dynamic optimization of IT services, implement processes fostering business innovation
Technology	No formsal strategy or execution on technology investments	Basic management tools, no formal infra HW of SW standards	IT support and project related mngmt tools, desktop/HW/SW standards defined, begin infrastructure standardization/rationalization	Formal infrastructure standards and policies, domain-centric mngmt tools, virtualization foundation in place	Formal IT management process/tools architecture, shared services, aggregated capacity mngmt	Proactively promoting new technologies and impact to business, real-time infrastructure
Business management	No formal IT business management functions	Very little outside of budgeting	Project management office	Financial management, formal key performance indicators (KPI)	IT service cost metrics, competitiveness	Business contribution metrics
Level	**0**	**1**	**2**	**3**	**4**	**5**

Gartner defined six overall levels of I&O maturity, with the following objectives for each level:

Level 0, Survival — Little to no focus on IT infrastructure and operations.

Level 1, Awareness — Realization that infrastructure and operations are critical to the business; beginning to take actions (in people/organization, process and technologies) to gain operational control and visibility.

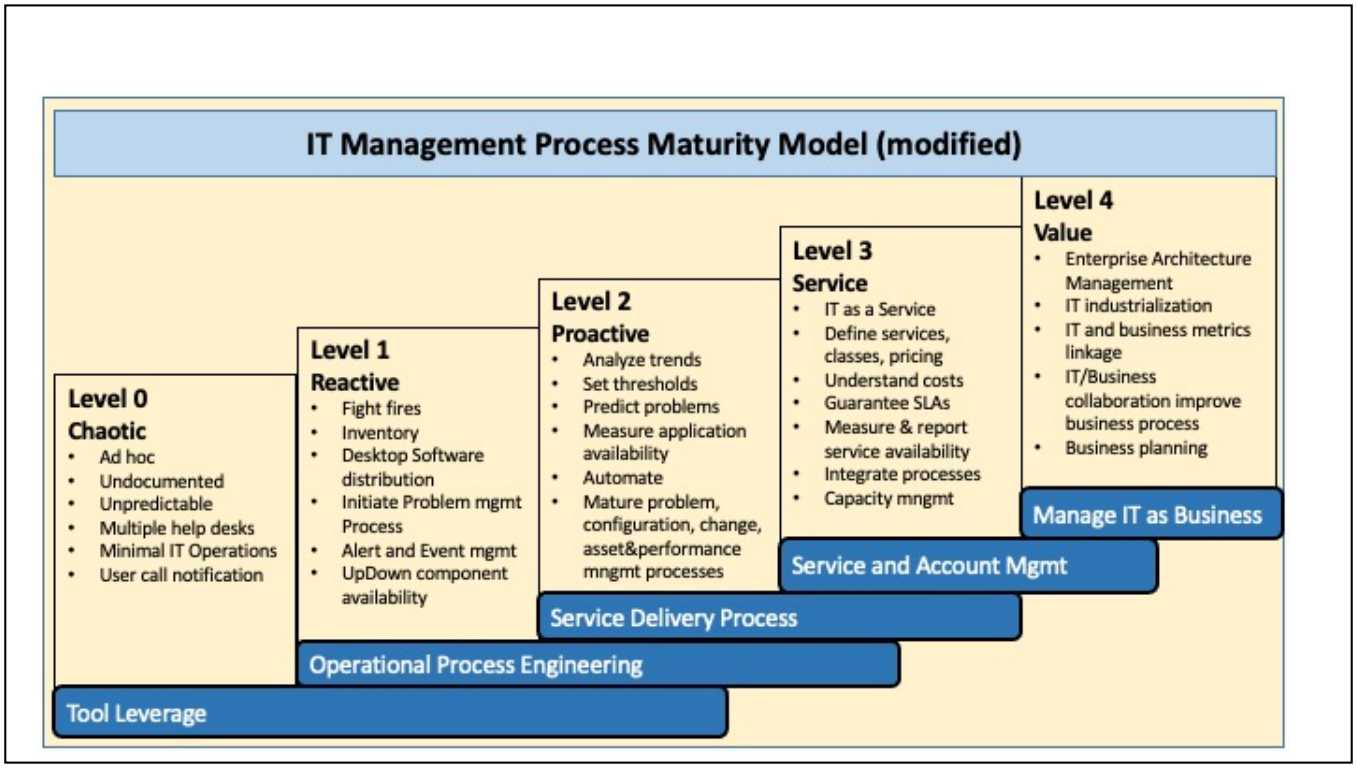
Level 2, Committed — Moving to a managed environment, for example, for day-to-day IT support processes and improved success in project management to become more customer-centric and increase customer satisfaction.

Level 3, Proactive — Gaining efficiencies and service quality through standardization, policy development, governance structures and implementation of proactive, cross-departmental processes, such as change and release management.

Level 4, Service-Aligned — Managing IT like a business; customer-focused; proven, competitive and trusted IT service provider.

Level 5, Business Partnership — Trusted partner to the business for increasing the value and competitiveness of business processes, as well as the business as a whole.

Another important aspect of an IT maturity model is the need for a rapid ROI. Because of the rate of technology change, the change in business requirements and operational processes, and the need for new skills and collaboration methods, IT projects that require many years of implementation and expect a long-term ROI inevitably fail, as tools change or goals shift. An IT maturity model must provide for smaller steps, implementable in no more than two or three years, that generate measurable, rapid ROI.


IT Management Process Maturity Model (modified)
Level 0
Chaotic
Ad hoc
Undocumented
Unpredictable
Multiple help desks
Minimal IT Operations
User call notification
Level 1
Reactive
Fight fires
Inventory
Desktop Software distribution
Initiate Problem mgmt Process
Alert and Event mgmt
UpDown component availability
Level 2
Proactive
Analyze trends
Set thresholds
Predict problems
Measure application availability
Automate
Mature problem, configuration, change, asset&performance mngmt processes
Level 3
Service
IT as a Service
Define services, classes, pricing
Understand costs
Guarantee SLAs
Measure & report service availability
Integrate processes
Capacity mngmt
Level 4
Value
Enterprise Architecture Management
IT industrialization
IT and business metrics linkage
IT/Business collaboration improve business process
Business planning
Manage IT as Business
Service and Account Mgmt
Service Delivery Process
Operational Process Engineering
Tool Leverage

The 2014 GarGartner I&O Summit 2014 - Pre-Conference Workshop:

Only 10% of companies surveyed have scored 3.0 or greater. The average score is 2.31 out of 5.

Every organization should have the objective to achieve Level 4 of the process maturity which enables the business highest flexibility and efficiency.

Service model

A service model describes how a service provider creates value for a given portfolio of customer contracts by connecting the demand for service from the assets of its customers with the service provider's service assets. It describes both **the structure** and **the dynamics** of the service.

- **Structure:** The particular service assets needed to deliver the service and the patterns in which they are configured.
- **Dynamics:** The activities, flow of resources, coordination and interactions between customer and service provider assets (e.g. interaction between service users and service agents). Service dynamics include patterns of business activity (PBAs), demand patterns, exceptions and variations.

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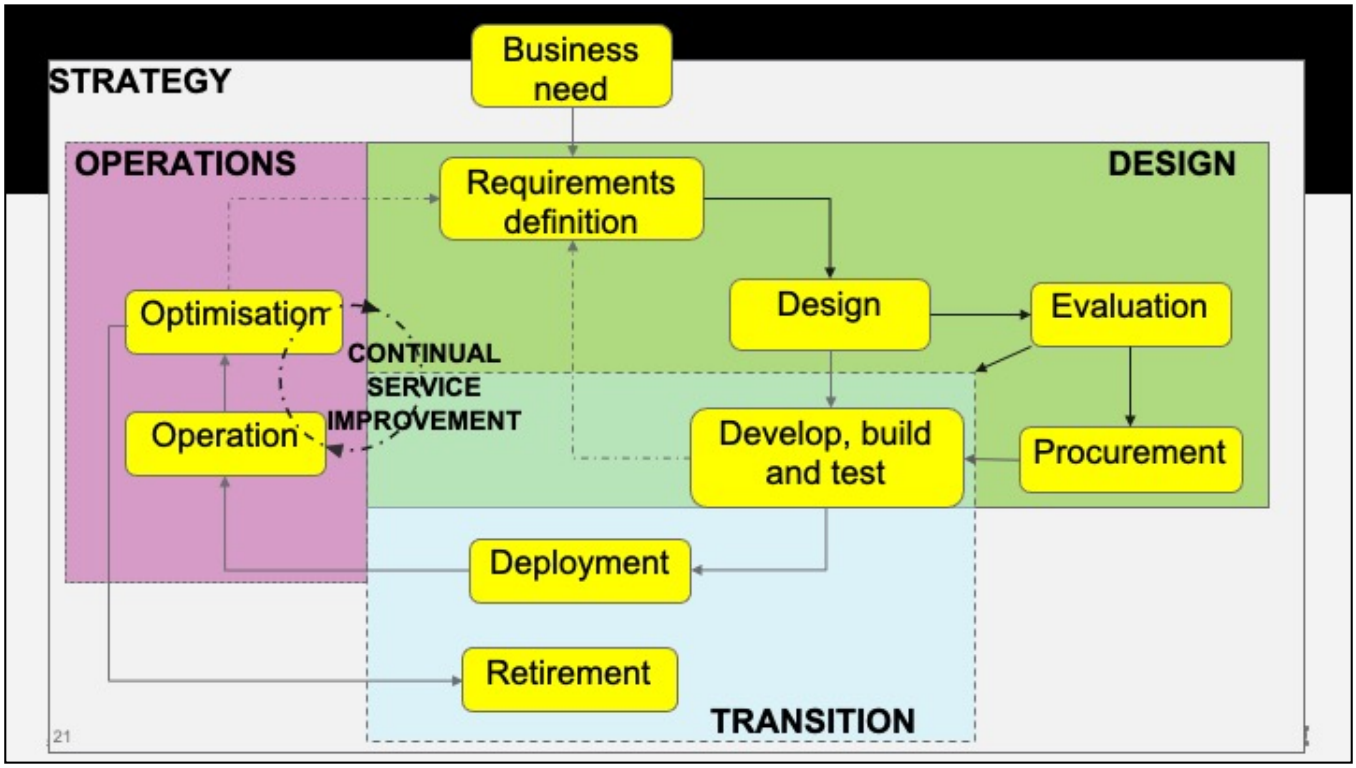
A service model may include:

- process maps;
- workflow diagrams;
- queuing models;
- activity patterns.



Whether services are being provided by an internal unit of the organisation or contracted to an external agency, all services should be driven solely by business needs and judged by the value that they provide to the organisation. Decision-making therefore rests with the business. Within this context, services must also reflect the defined strategies and policies of the service provider organisation, which is particularly significant for external providers.

This Figure illustrates how the service lifecycle is initiated from a change in requirements at the business level. These new or changed requirements are identified and agreed at the service strategy stage and documented. Each of these ‘packages’ will have an associated defined set of business outcomes.

The package is passed to the service design stage where a service solution is produced, defining everything necessary to take this service through the remaining stages of the lifecycle. Solutions may be developed internally or consist of bought-in components that are integrated internally.

The design definition is passed to the service transition stage, where the service is built, evaluated, tested, validated and transitioned into the live environment, where it enters the live service operation stage. The transition phase is also responsible for supporting the service in its early life and the phasing out of any services that are no longer required. Service operation focuses on providing effective and efficient operational services to deliver the required business outcomes and value to the customer. This is where any value is actually

delivered and measured.

Continual service improvement identifies opportunities for improvement (which may arise anywhere within any of the lifecycle stages) based on measurement and reporting of the efficiency, effectiveness, cost-effectiveness and compliance of the services themselves, the technology that is in use and the service management processes used to manage these components. Although the measurements are taken during the operational phase, improvements may be identified for any phase of the lifecycle.

THE DEMING CYCLE

The objective is continual service improvement. This relates to the services provided by the organization and also to the processes used to deliver those services. The Deming Cycle may be used to improve, for example, an online ordering service or the service level management process within an organization.

KEY ACTIVITIES

The integration of the Plan–Do–Check–Act cycle with the seven-step improvement process identifies the activities of each stage as follows:

Plan1. Identify the strategy for improvement.2. Define what you will measure.

Do3. Gather the data.4. Process the data.

Check5. Analyse the information and data.6. Present and use the information.

Act7. Implement improvement.

A. The ability to provide data and information that is both timely and accurate is a critical criterion. Critical particularly for IPC (incident, Problem, Change), Release and Configuration Management. (Highlighting) CMDB (Configuration Management Database) – many IT Processes and functions rely on CMDB data.

B. CMDB accuracy – data quality and completeness!

C. Notice – completeness includes the ability to continuously add new capabilities and improved functionality.

D. Can be described as applying an ITSM service model to use cases beyond IT to include Business Services in “horizontal” perspective (i.e. HR, Facilities, Field Services etc.). Such and expanded perspective greatly assists in enabling all the benefits provided by automation and end-to-end integration as applied to Business Services and associated processes.

E. ….

F. The percentage of scheduled operational time that the service in question is operational.

G. When operations of the service become unavailable it becomes critically important to restore availability as rapidly as possible. The time from when Operational Availability is lost go the time it is restored is known as Time to Recover (or Recovery Speed).

H. Visualization often presents itself as graphically oriented displays and dashboards. It enables not just effective reporting but also improved insights that help organizations identify and address problems or potential problems sooner. Performance Analytics include KPIs (Key Performance Indicators) and metrics visualization that are related to any service management process and derived from Service Level Agreements (SLAs).

I. Usability – in relation to SW tools of Service Management

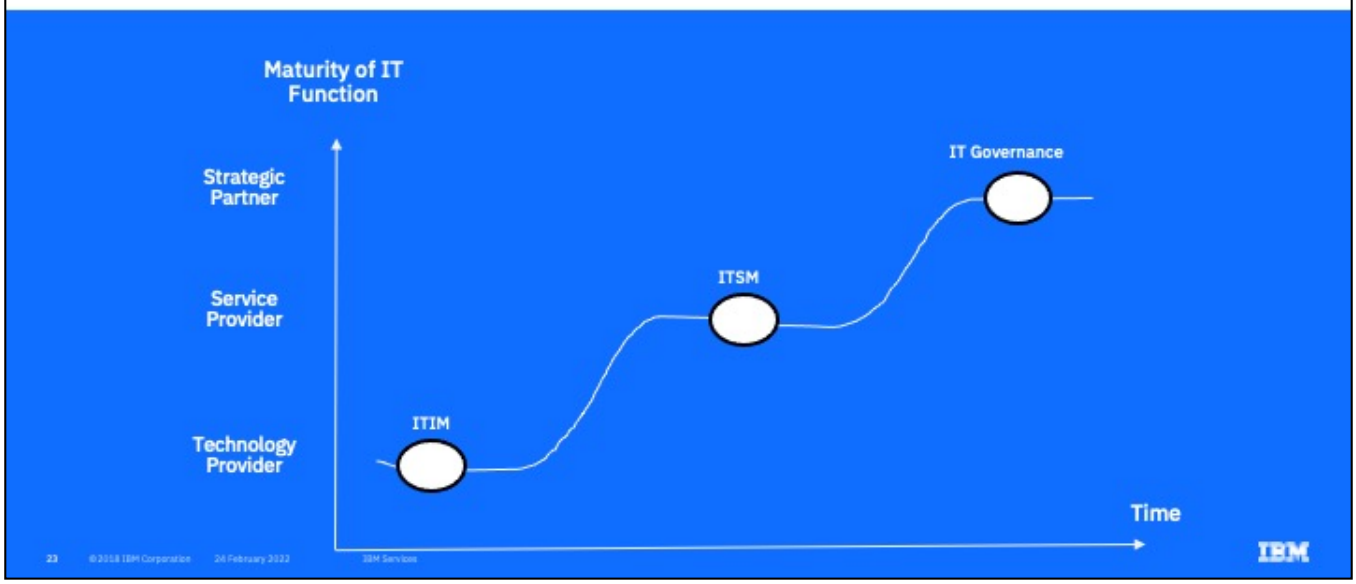
J. Productivity or the efficiency of any effort is a critical success factor for all operations.

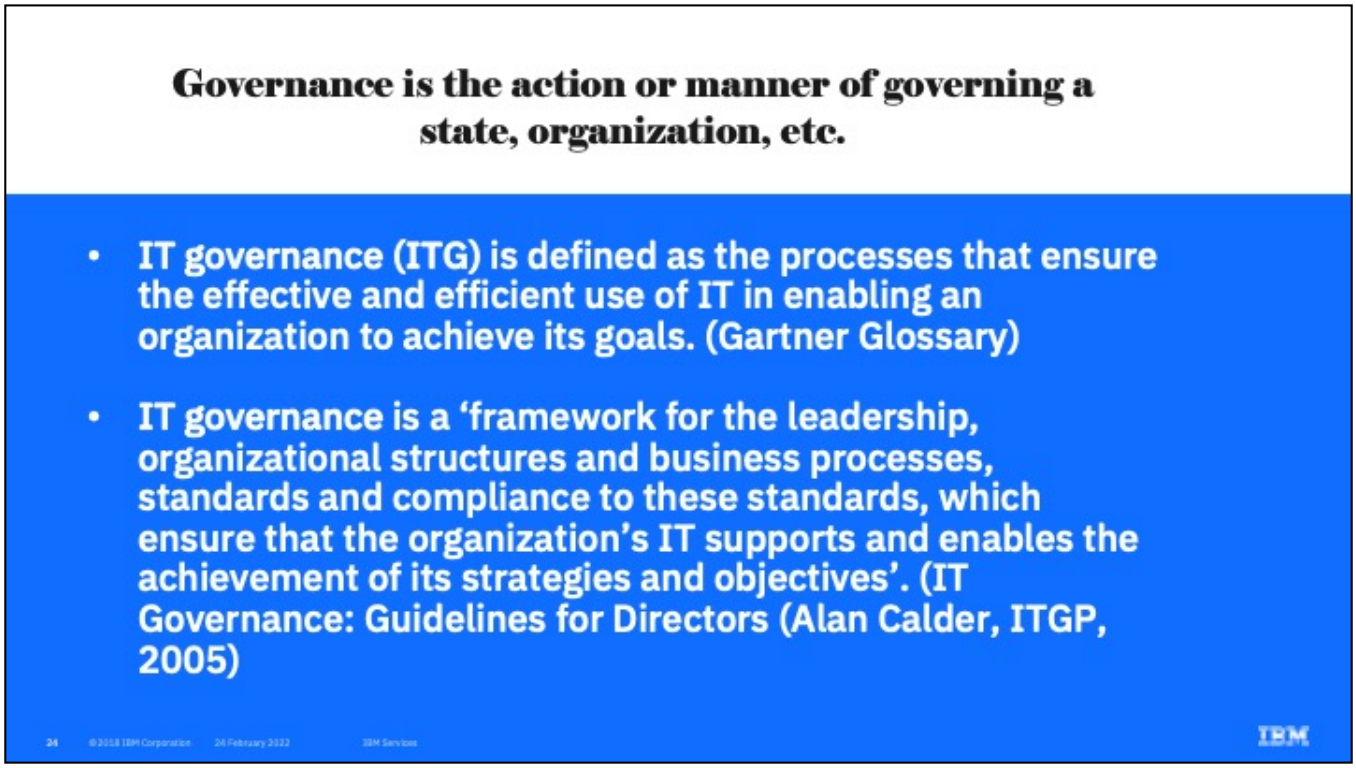
K. NO two customers are the same. Extensibility represents the ability for a system capability to be customized or localized for the particular and unique requirements of each customer's environment. Discovery functionality plays a key role within any ITSM solution.

L. The term compliance describes the ability to act according to an order, set of rules or request. Compliance assurance is a very costly effort when done reactively and out-of-compliance penalties can have dramatically negative financial legal impact.

M. Automation in this context is that the ITSM solution mimizes the amount of manual (human) interaction or control and instead works based on its own processes and functionality – e.g. cognitive solution etc. Automation of technical, administrative and management processes from service request to configuration changes to any repetitive task is cornerstone of any viable ITSM service solution. There is also a strong connection between Automation of processes and the assumed, integrated quality of the database or CMDB. Automation is also important for the overall cost-effectiveness of any operatio from a cost of the workforce perspective. Most if not all of the key ITSM attributes described above are generally enhanced through use of Automated systems.

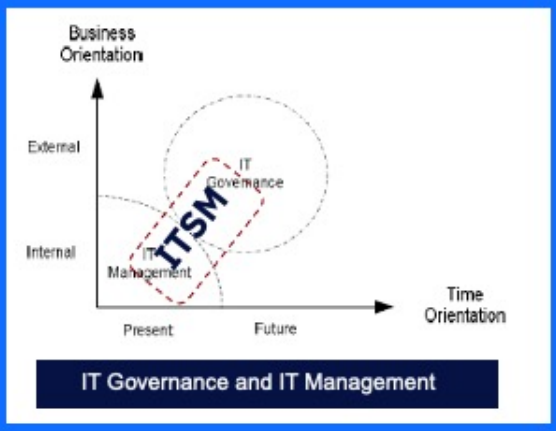
Evolution of the IT Function within the organizations



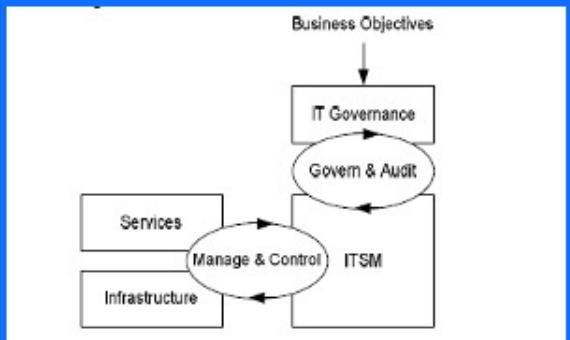


- Gartner recongises other "types" of IT Governance too : IT demand governance (ITDG—what IT should work on) is the process by which organizations ensure the effective evaluation, selection, prioritization, and funding of competing IT investments; oversee their implementation; and extract (measurable) business benefits. ITDG is a business investment decision-making and oversight process, and it is a business management responsibility. IT supply-side governance (ITSG—how IT should do what it does) is concerned with ensuring that the IT organization operates in an effective, efficient and compliant fashion, and it is primarily a CIO responsibility.

Whereas the domain of IT Management focuses on the efficient and effective supply of IT services and products, and the management of IT operations, IT Governance faces the dual demand of (1) contributing to present business operations and performance, and (2) transforming and positioning IT for meeting future business challenges".

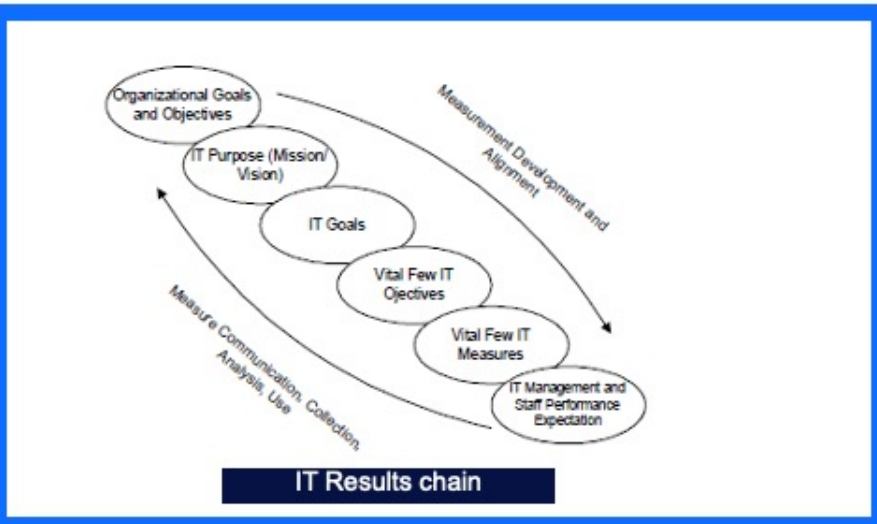


IT Governance and IT Management



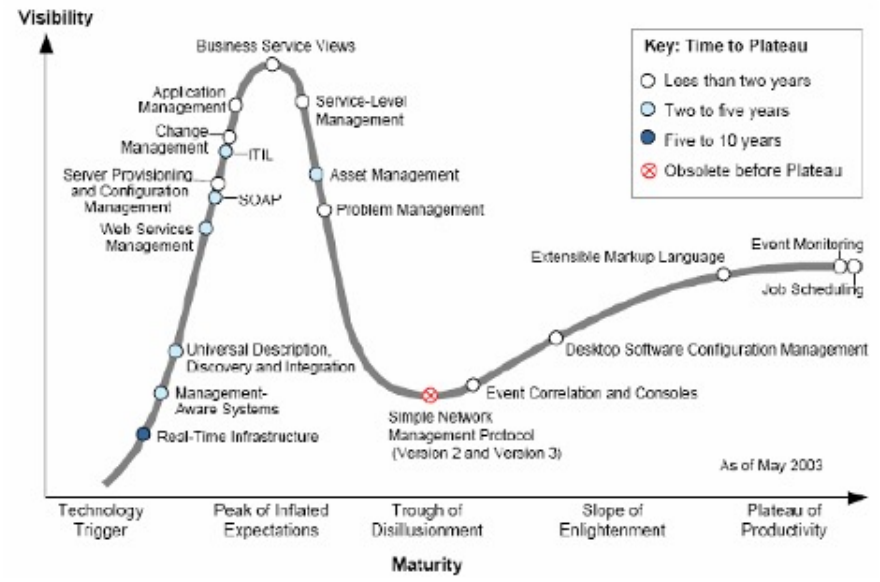
Relational model between IT Governance, ITSM and IT operations and services

IT Governance should be aligned with the Enterprise Governance



one of the IT Governance goals is to align with the business objectives defined by the Enterprise Governance. These high-level organizational goals and objectives are used as

input to derive goals, objectives and performance metrics needed to manage IT effectively. At the same time, the auditing processes are put in place in order to measure and analyze the performance of the organization. Conceptually, the process can be seen as an “IT results chain”. Recursively, ITSM, its people, processes and technologies manage and control the IT services and the IT infrastructure according to the objective received from the governance. Another IT results chain is design to link ITSM with the service and infrastructure.


Visibility
Business Service Views
Application Management
Change Management
ITIL
Server Provisioning and Configuration Management
SOAP
Web Services Management
Service-Level Management
Asset Management
Problem Management
Universal Description, Discovery and Integration
Management-Aware Systems
Real-Time Infrastructure
Simple Network Management Protocol (Version 2 and Version 3)
Event Correlation and Consoles
Desktop Software Configuration Management
Extensible Markup Language
Event Monitoring
Job Scheduling
Key: Time to Plateau
Less than two years
Two to five years
Five to 10 years
Obsolete before Plateau
As of May 2003
Technology Trigger
Peak of Inflated Expectations
Trough of Disillusionment
Slope of Enlightenment
Plateau of Productivity
Maturity

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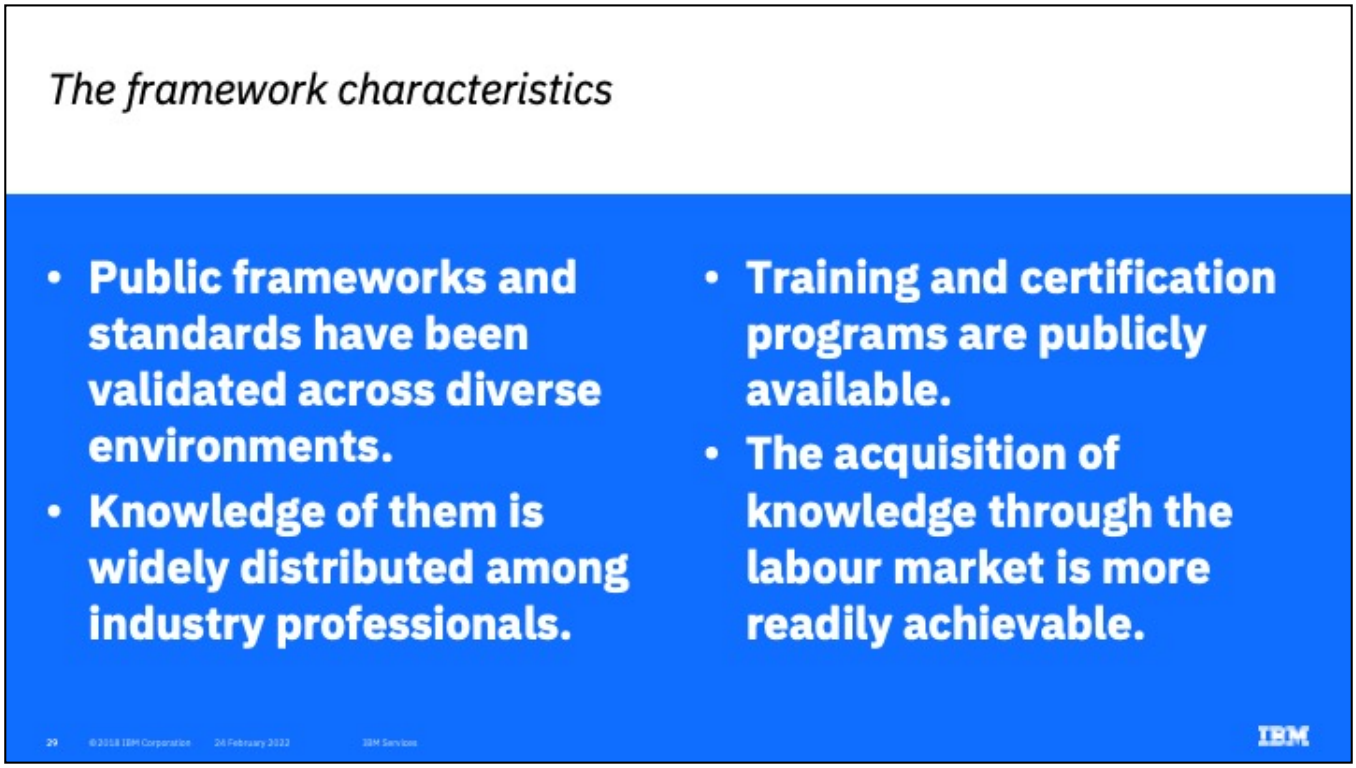
IT Service Management

Objectives

ITSM needs a stable framework to provide continuously high service quality, service and process improvement, and to reduce organizational risks and costs.

Stable framework for ITSM	Standardize and implement ITSM processes	Reduced organizational risks and cost
■ Codification of basic business requirements for IT service management ■ Providing impartial external method of assessment of IT service quality ■ Providing clear evidence that ITSM quality is taken seriously ■ Assistance to meet legislative compliance requirements ■ Internationally recognized assessment	■ Codified and repeatable support for organizations to assess and improve ITSM process effectively and improvement, and to enforce process compliance ■ Ensuring continuous improvement ■ Benchmark with best practices ■ Requirements to align service management with suppliers and other 3rd party providers	■ Support to ensure better alignment between business and IT service provisioning ■ Promoting consistent and cost effective services ■ Reducing costs by effective benchmarking and management of suppliers of IT services ■ Commitment that IT services will be delivered in compliance with accepted best practice(s)



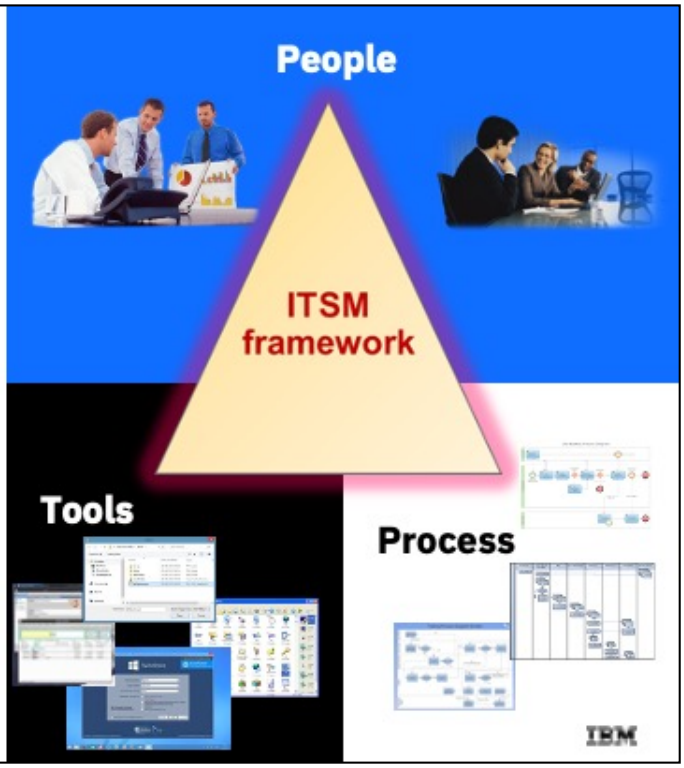
The proprietary knowledge of enterprises and individuals is usually customized for the local context and specific business needs of an organization. It may only be available to a wider market under commercial terms and may be poorly documented and hard to extract. If embedded within individuals it may not be documented at all.

Enterprises deploying solutions based on good and best practice should, in theory, have an optimal and unique solution. Their solution may include ideas that are gradually adopted by other enterprises and, having been widely accepted, eventually become recognized inputs to good and best practice.

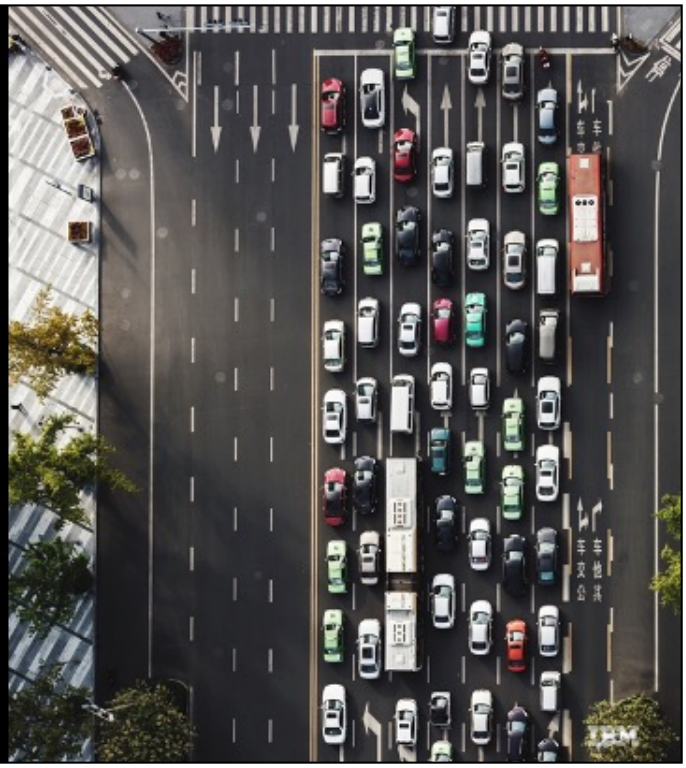
The framework is not a standard in the formal sense but represents a "repository" which is a source of good practice in service management. The standard for IT service management (ITSM) is ISO/IEC 20000, which is aligned with, but not dependent on, one of the most accepted framework - ITIL.

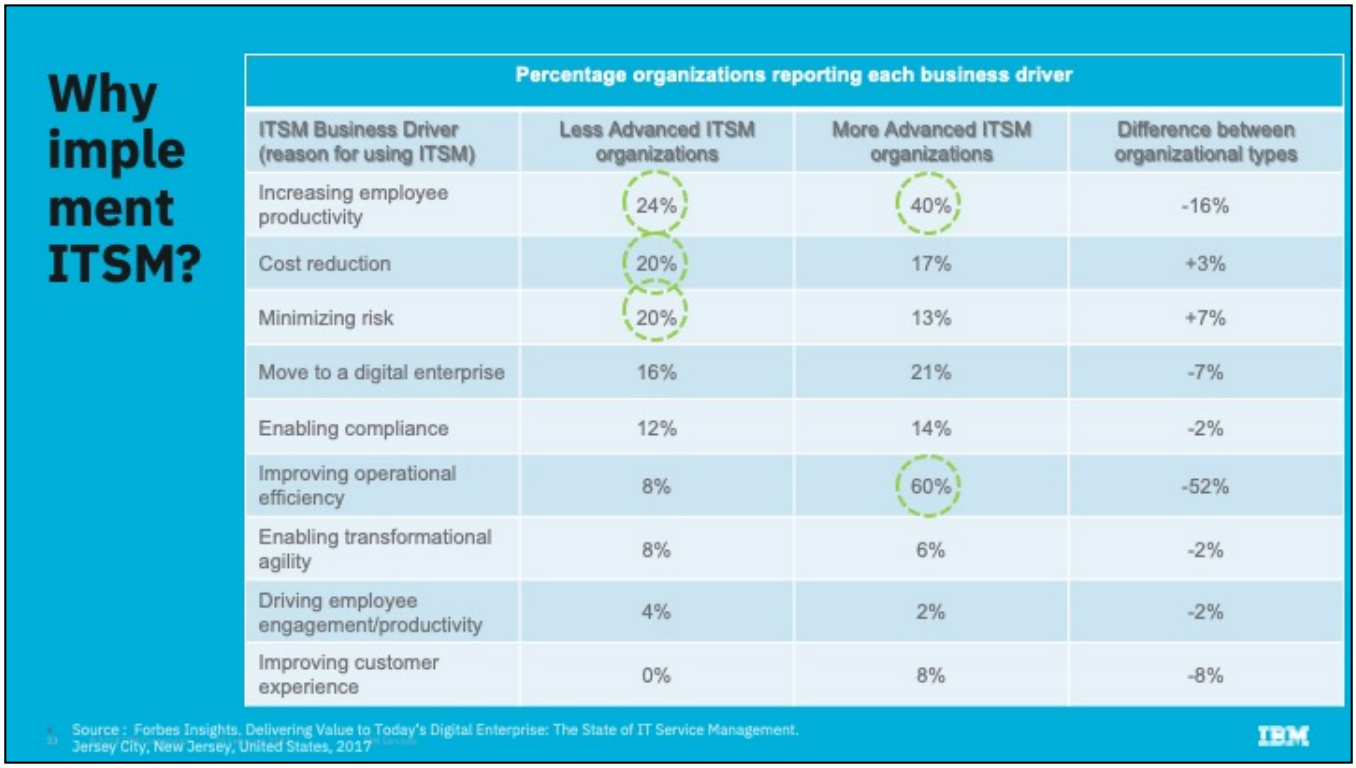
The objective of the ITIL service management framework is to provide guidance applicable to all types of organisations that provide IT services to businesses, irrespective of their size, complexity, or whether they are commercial service providers or internal divisions of a business.

ITSM as management discipline consists of 3 “independent” areas.



Business Benefits of IT Service Management



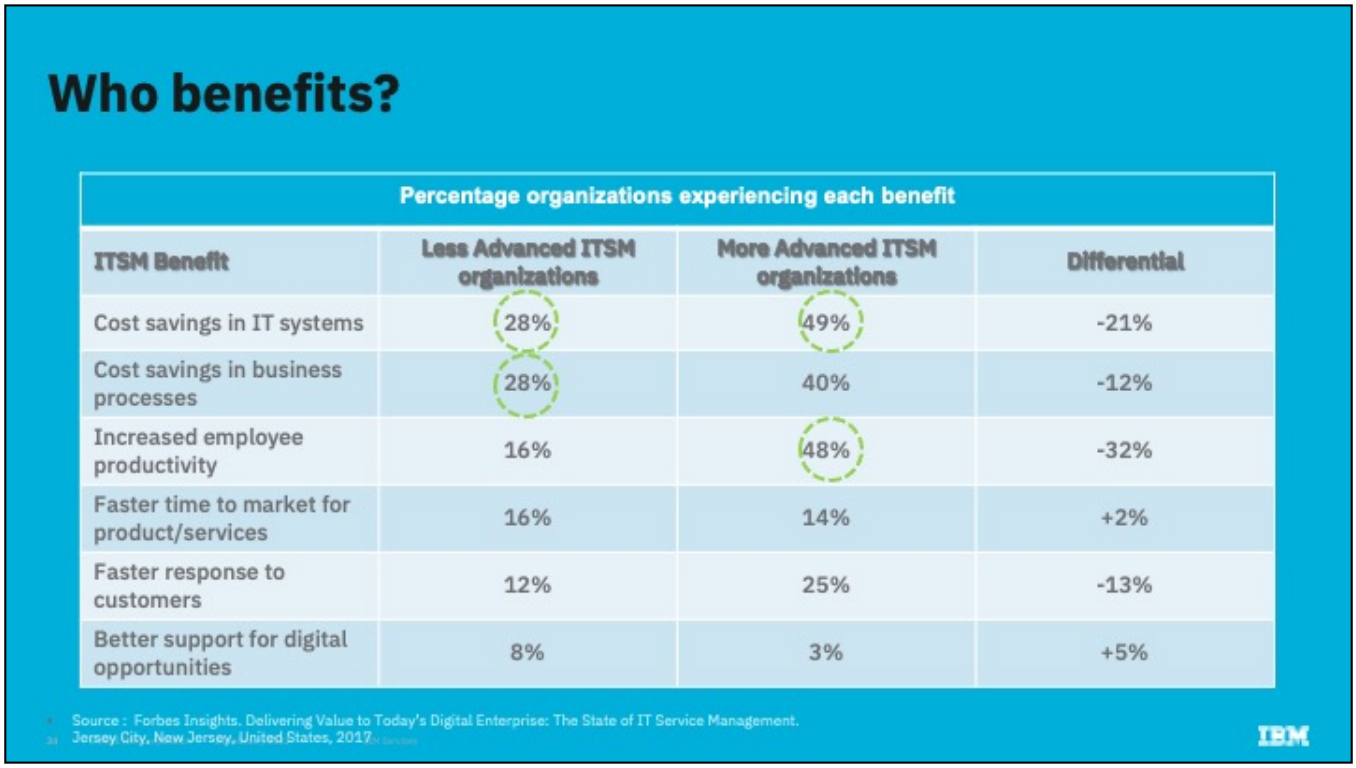


According to the survey, there is a noticeable difference in the number of business drivers each type of organization can satisfy. Restated from Figure 22 in the Forbes Insights survey, here are the most important business drivers listed for less advanced ITSM organizations (by percentage reported for each business driver) versus the percentages that more advanced ITSM organizations reported.

The most interesting thing is that there are only two business drivers (cost reduction and minimizing risk) that less advanced ITSM organizations reported more often than more advanced ITSM organizations. Conversely, the other seven business drivers were reported more often for more advanced ITSM organizations versus less advanced ITSM organizations. And two of the business drivers were reported at a significantly higher rate for more advanced organizations (i.e., increasing operational efficiency at a 52% difference and increasing employee productivity at a 16% difference).

The lesson we can draw here is that less advanced ITSM organizations are mostly concerned with the starter business drivers of ITSM (employee productivity, cost reduction, minimizing risk, moving to a digital enterprise, etc.) and in fewer business drivers overall. More advanced organizations are also concerned with these items, but in much higher numbers. In short, the longer an organization runs an ITSM environment and the more centered ITSM

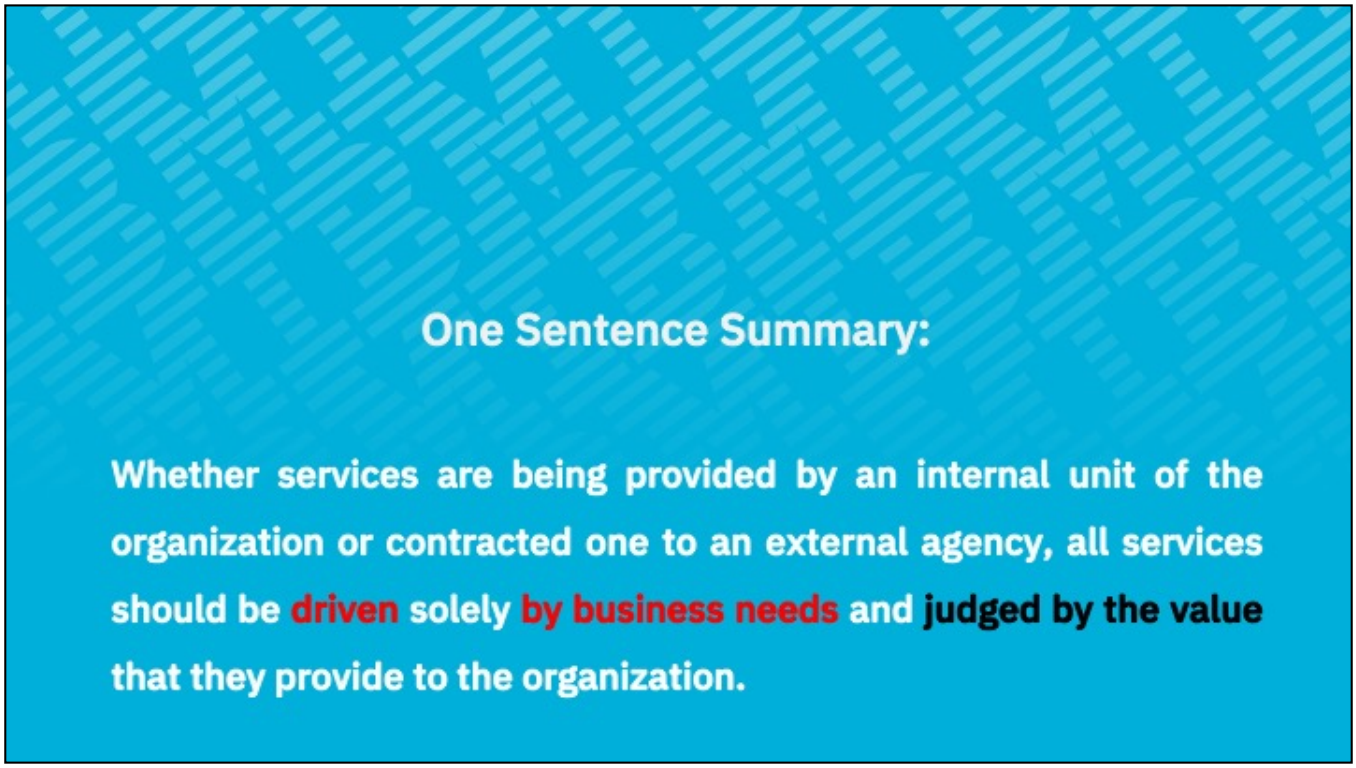
implementation is around the entire enterprise and its competitive strategy, the more business drivers it can satisfy within that environment.



There's a similar difference when you look at the ITSM benefits incurred between less advanced and more advanced ITSM organizations. Restated from Figure 24 of the Forbes Insight survey, here are the top ITSM benefits experienced for less advanced ITSM organizations versus more advanced organizations.

Here the differences are more stark. In four out of six benefit categories, more advanced ITSM organizations are experiencing benefits at a greater level than less advanced ITSM organizations. And most of the differences are in double digits.

The finding here is clear. More advanced ITSM companies experience more benefits than less advanced organizations.



The term ‘best practice’ generally refers to the ‘best possible way of doing something’. As a concept, it was first raised as long ago as 1919, but it was popularised in the 1980s through Tom Peters’ books on business management.The idea behind best practice is that one creates a specification for what is accepted by a wide community as being the best approach for any given situation. Then, one can compare actual job performance against these best practices and determine whether the job performance was lacking in quality somehow. Alternatively, the specification for best practices may need updating to include lessons learned from the job performance being graded.Enterprises should not be trying to ‘implement’ any specific best practice, but adapting and adopting it to suit their specific requirements. In doing this, they may also draw upon other sources of good practice, such as public standards and frameworks, or the proprietary knowledge of individuals and other enterprises.

What shall we talk about next?

- IT Services – insourcing vs. outsourcing
- IT Services delivery models
- The basic steps of the Managed Services Model
- Key levers to drive quality and productivity

Quest

See you

February	March	April	May
	9th	6th	4th
	16th	CIC visit Optional	11th
	23rd	20th	
23rd	CIC visit Optional	27th	