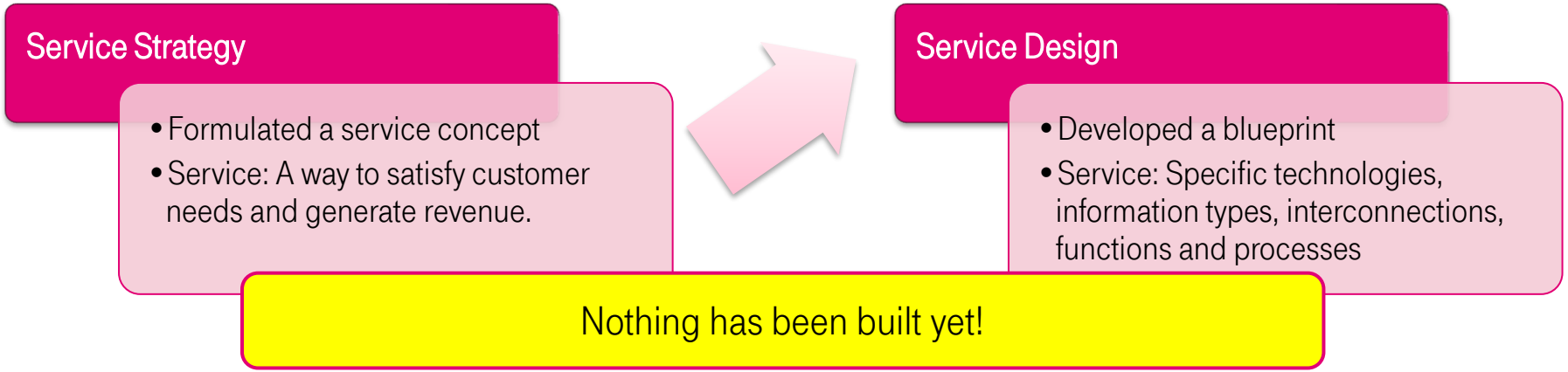
DEEP DIVE

→ SERVICE TRANSITION

SERVICE TRANSITION - INTRODUCTION



Aim of Service Transition:

Take the detailed service description and **build, develop and deploy** the technology, architecture and service.

Secondary objective:

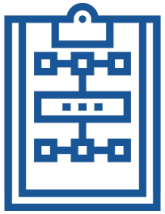
Ensure the building, deployment and changes to the service to be done in a coordinated, efficient way.

SERVICE TRANSITION – PRIMARY BREAKDOWN

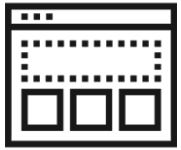
Service Validation and Testing

Change Evaluation

Change Management



Service Asset And Configuration Management



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Knowledge Management

CHANGE MANAGEMENT

Change Management aims to manage the lifecycle of all changes.

Objective:

Ensure that beneficial changes are made with minimum disruption to IT services.

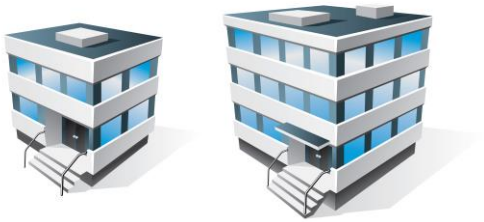
Change:

The addition, modification or removal of anything that could have an effect of IT Services. The scope should include changes to all processes, tools, metrics and documentation, as well as changes to IT services and other configuration items.

Standard change:

A pre-authorized change that is low risk, relatively common and follows a procedure or work instruction – for example, a password reset or provision of standard equipment to a new employee.

CHANGE MANAGEMENT



- Thousands of systems
- Connected to each other
- Shielded from one another
- Changes need proper planning

CHANGE MANAGEMENT

Start of Change Management: **Raising a Change**

A raised change must answer 7 crucial questions, known as “Seven Rs”

Who **raised** the change? (a.k.a. **Requestor**)

What is the **reason** for the change?

What is the **return** for the change?

What are the change’s **risks**?

What **resources** are needed for the change?

Who is **responsible** for building, testing and implementation?

Which **relationships** exist between this and other changes?

These **Seven Rs** form the foundation of good change management.

CHANGE MANAGEMENT

Trigger for Change Management: Request for Change

- Written formal request for a specific change.
- Submitted by a customer or user
- Justified and described (using 7 R's)

RfC Templates

- They guide a customer through properly filling-in necessary details
- Computer technologies can greatly support RfC templates

Email address: john.doe#company.com

That doesn't seem like a valid address, please double-check!

CHANGE MANAGEMENT

Some changes become routine – our operators are highly skilled in executing them.

- Replacing table-cloth
- Moving chairs to the terrace and back
- Arranging candles
- Installing an Operating System
- Restoring a phone to factory defaults
- Preparing a new desktop

Change Model

- Structured approach for handling specific types of changes, providing predefined steps, roles, and procedures.
- Includes exact timing and resources needed
- Standard Changes ALWAYS follow a Change Model
- These changes require only minimal approvals (they are “pre-approved”)
- Changes following a model can be Standard, Normal, or even Emergency Changes, depending on their nature.

CHANGE MANAGEMENT

Implementation of a change may require shutting down or disconnecting a system

Downtime – unavailability of a system or service

Projected Service Outage – estimate of downtime duration

Change Record – a documentation of a single Change

- Initially contains a copy of the RfC
- Additional information added during evaluation, scheduling and planning
- For practical purposes, each Change has a **status**, indicating its progress through Change lifecycle (but it is not a requirement of CHM according to ITIL).

CHANGE MANAGEMENT

Changes have different complexity: from simple changes to complex ones.

Change Evaluation

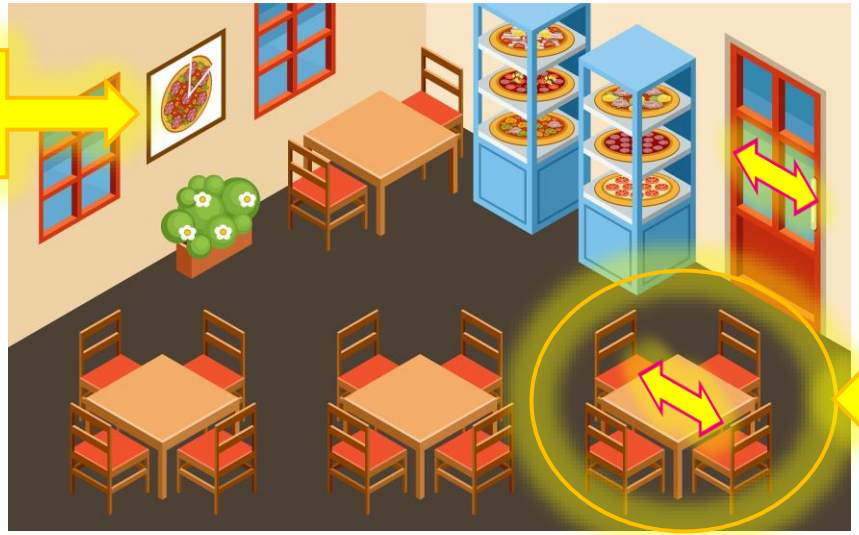
- How complex is the change
- How risky is the change

→ Change Evaluation Report

Have we done this before?	• No, never
Will the furniture fit?	• We don't know!

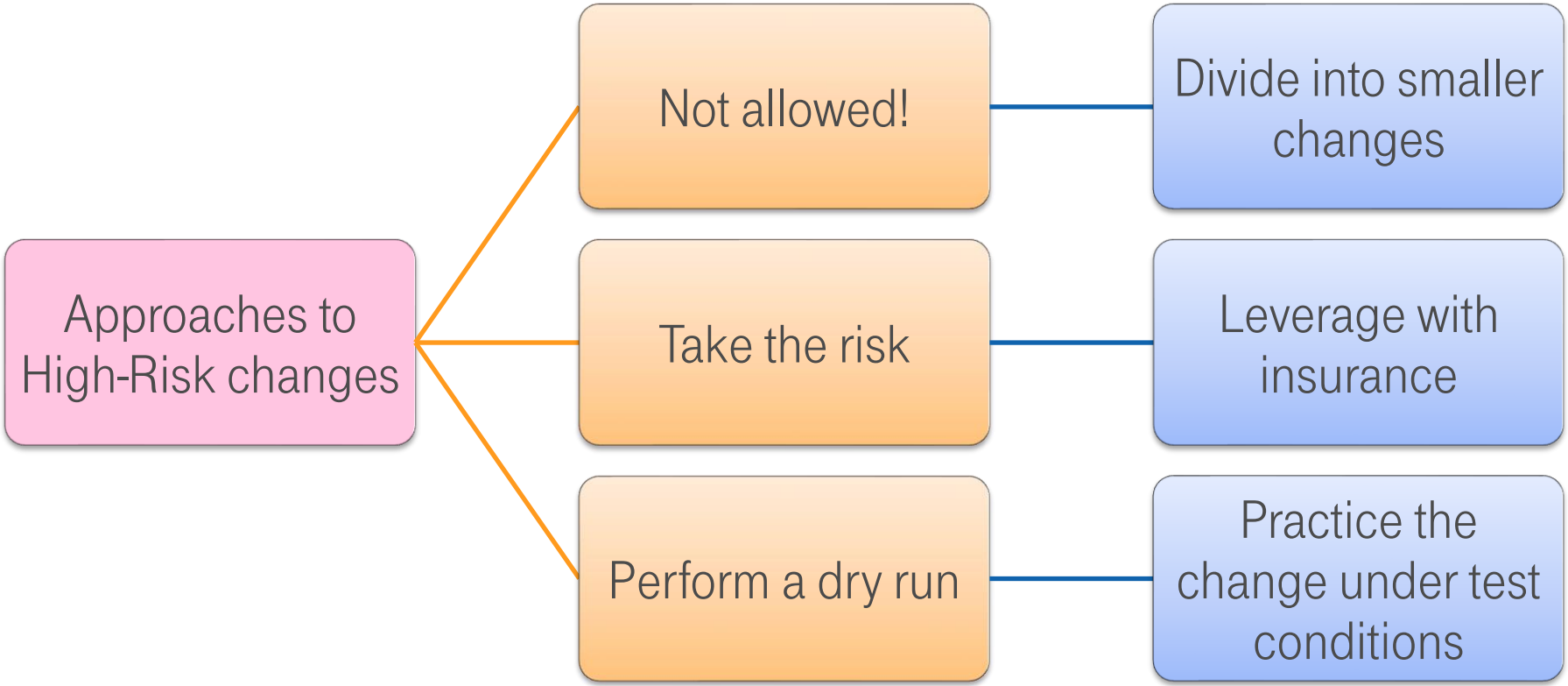
High risk change!

Change decorations!



Move furniture!

CHANGE MANAGEMENT



CHANGE MANAGEMENT

Major Change – a change which introduces new service or makes a substantial change to an existing service.

- Relocation between datacenters
- Upgrade of all systems to a newer version
- Switching from one technology to another

Example of previous T-Systems classification of changes

- Standard Change
- Minor Change
- Significant Change
- Major Change

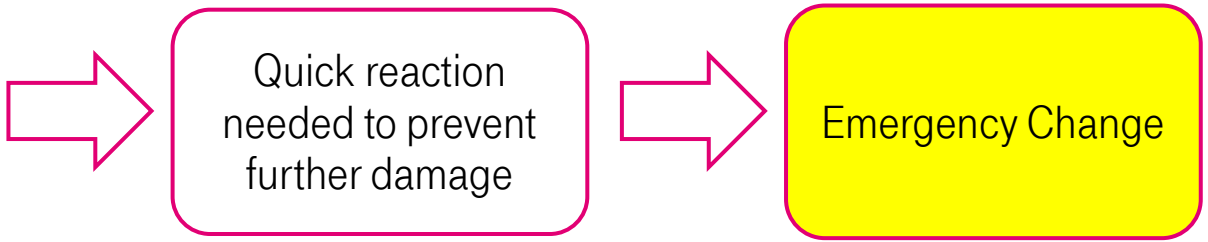
CHANGE MANAGEMENT

Change Management: A highly planned process

- ✓ Everything is thought-through
- ✓ Risks are considered
- ✓ Scheduling conflicts avoided
- ✓ Everyone is informed

Change can also be triggered by emergencies

- Technical malfunction
- Virus infection
- Hacker attack



CHANGE MANAGEMENT – EMERGENCY CHANGES

What if the tablecloth is burned by a candle?

- Arrive with a serving table
- Collect meals and tableware
- Relocate guests to a new table
- Damaged cloth can be removed
- New cloth placed on the table

CHANGE MANAGEMENT – EMERGENCY CHANGES

- Emergency changes are typically evaluated separately from normal changes
- Objective is to implement them to minimize additional disruption of the service

ITIL definition – emergency change:

A change that must be introduced as soon as possible – for example, to resolve a major incident or implement a security patch. The change management process will normally have a specific procedure for handling emergency changes.

Modern hardware contains self-diagnosis tools ("SMART tools")

→ Very beneficial for **high-availability services**

CHANGE MANAGEMENT - RECAP

Change – Modification of a service or its part

Changes can be Normal or Emergency, based on their urgency.

Changes can range from Standard to Major, based on their complexity and risk.

Standard Changes always follow a Change Model.

Not all changes that follow a Change Model are Standard Changes – can be also Normal, even Emergency.

Changes are raised (and described using 7 R's) via Request for Change.
RfC Templates support requestors in raising changes.

Changes must be **approved** and properly planned to minimize disruption of services by Downtime.

How are Changes approved?

CHANGE MANAGEMENT – APPROVALS

- Change is assessed by every stakeholder of the target element.
- Approvals are required from all of them – everyone has a veto power

Change Advisory Board (CAB)

- People who advise on whether a particular change should be approved.
- ITIL definition: a group of people that support the assessment, prioritization, authorization and scheduling of changes. Usually made up of representatives from: all areas within the IT service provider, the business, and third parties such as suppliers.

Note (T-Systems): CAB consists of the stakeholders with veto power

High-quality information needed for CAB decisions → Changes lacking information are rejected → Motivation for requestors to provide detailed information

CHANGE MANAGEMENT – KEY TAKE-AWAYS

- Following a process while changing services ensures that critical details won't be overlooked and that there won't be scheduling conflicts or errors in execution.

- Outdated information may result in wrong decisions and incorrect execution of changes.

- Change Management is based on close cooperation of
  - Technically-oriented employees
  - Administration-oriented employees

SERVICE TRANSITION – PRIMARY BREAKDOWN

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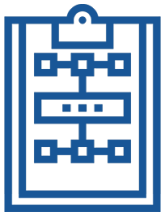

Service Asset And Configuration Management

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SERVICE ASSET AND CONFIGURATION MANAGEMENT

SACM Objective:

> Collect, maintain, update and make accessible the information about all elements of the service infrastructure and their configuration.

Service Assets: All components that are used by any service

Service Assets may be combined and grouped to form other assets!

ITIL definition: The process responsible for ensuring that the assets required to deliver services are properly controlled, and that accurate and reliable information about those assets is available when and where it is needed. This information includes details of how the assets have been configured and the relationships between assets.

SERVICE ASSET AND CONFIGURATION MANAGEMENT

Service Assets: All components that are used by any service

Assets are the building blocks of a service.

ITIL definition:

Any resource or capability of a service provider. The assets of a service provider include anything that could contribute to the delivery of a service. Assets can be one of the following types: management, organization, process, knowledge, people, information, applications, infrastructure or financial capital.

Changes are made to assets regularly via Change management.

Two vital pieces of information:

- Configuration of the asset – settings, capacity, versions of software, language settings...
- Relationship (Connections) to other assets – physical and logical

SERVICE ASSET AND CONFIGURATION MANAGEMENT

- ✓ SACM provides information about assets to Change Management.
- ✓ SACM is also in charge of **updating** information.

Where is the information stored?

CONFIGURATION MANAGEMENT SYSTEM

- All the information is stored in Configuration Management Databases (CMDBs).

ITIL definition: a database used to store configuration records throughout their lifecycle. The configuration management system maintains one or more CMDBs, and each database stores attributes of configuration items, and relationships with other configuration items.

- One or more CMDBs, together with tools that operate them, form a Configuration Management System (CMS)

Configuration Item (CI): unique representation of an asset in CMDB.

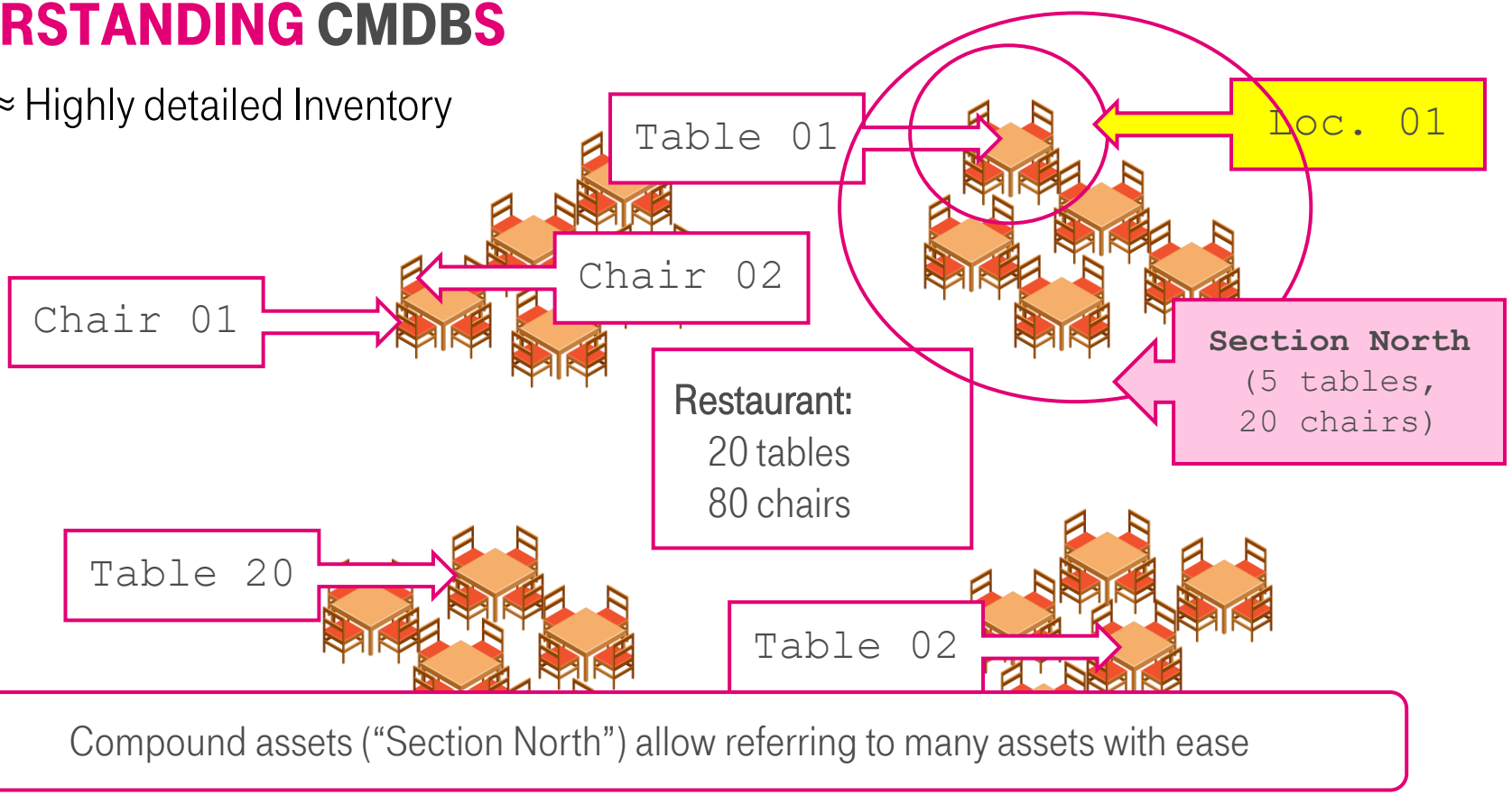
"CI" can be used interchangeably for "Asset"

Configuration Item record:

- ✓ Asset description (Make, Model, Date of purchase…)
- ✓ Asset configuration (Version, Settings…)
- ✓ Asset relationships to other assets

UNDERSTANDING CMDBS

CMDB ≈ Highly detailed Inventory



Compound assets (“Section North”) allow referring to many assets with ease

SACM - PROCESSES

Configuration Identification

- Ensures that CMS is capable of holding and handling all information about CIs.
- Updates CMS as technology evolves

Configuration Verification and Audit

- Performs regular audits of data in CMS and deals with discrepancies.
- Similar to inventory audit conducted by all organizations.

Configuration Control

- Controls who can modify data in CMS
- Usually also ensures backups and tracking of history of changes

SERVICE ASSET AND CONFIGURATION MANAGEMENT

Change Management needs perfect information (for CAB consideration, planning and scheduling)

SACM provides the information to Change Management.

Bank performing major update on Monday 10am?

→ Unhappy customers cannot access their money

➔ Updates to bank infrastructure are scheduled for nighttime and typically weekends

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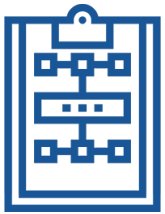

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KNOWLEDGE MANAGEMENT

- Knowledge Management is a late addition to ITIL.
  In the past, fragments of knowledge were managed in many processes.

Objective of KM:

Ensure collection, preservation and provisioning of knowledge within an organization.

Knowledge Management reduces the need to rediscover knowledge (“reinvent the wheel”).

ITIL definition: the process responsible for sharing perspectives, ideas, experience and information, and for ensuring that these are available in the right place and at the right time. The knowledge management process enables informed decisions, and iproves efficiency by reducing the need to rediscover the knowledge.

KNOWLEDGE MANAGEMENT

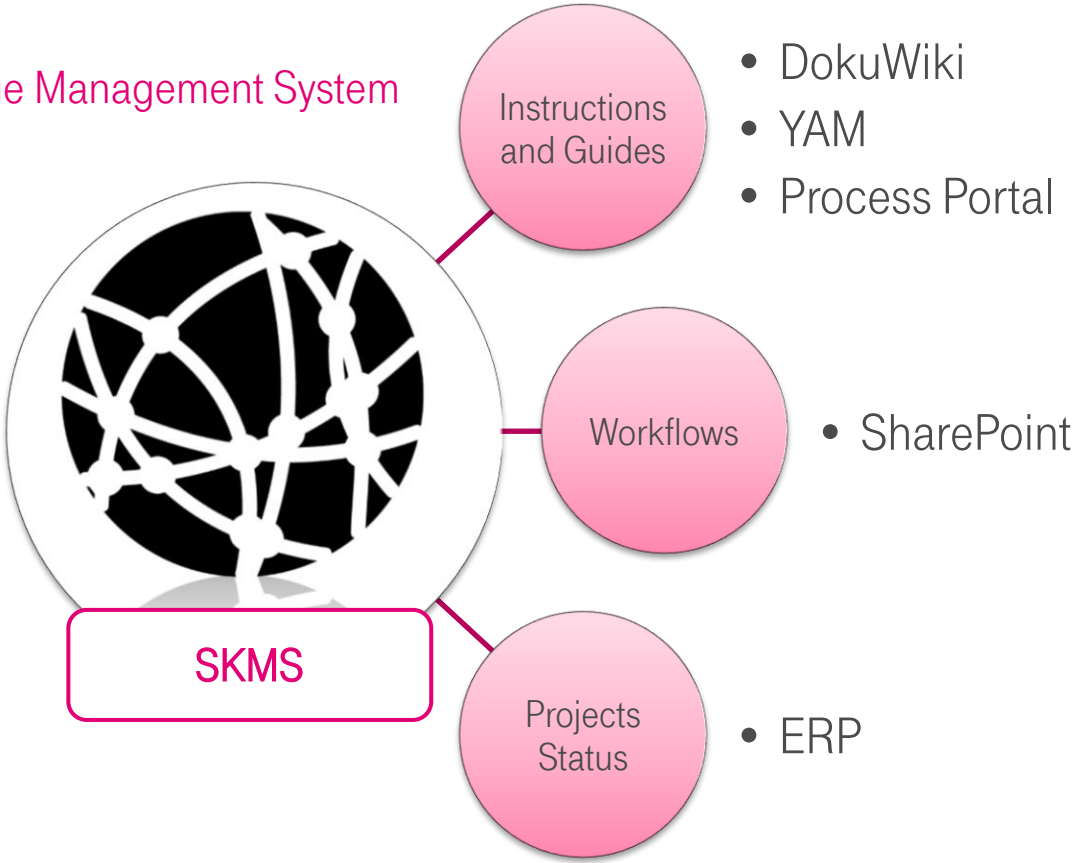
Why is knowledge rediscovered?

1. Knowledge may be discovered at multiple locations (nearly) simultaneously. Upon discovery, it is not immediately shared with others.
2. Experts leaving the organization, taking their knowledge with them.

Successful Knowledge Management
makes sharing knowledge
as effortless as possible.

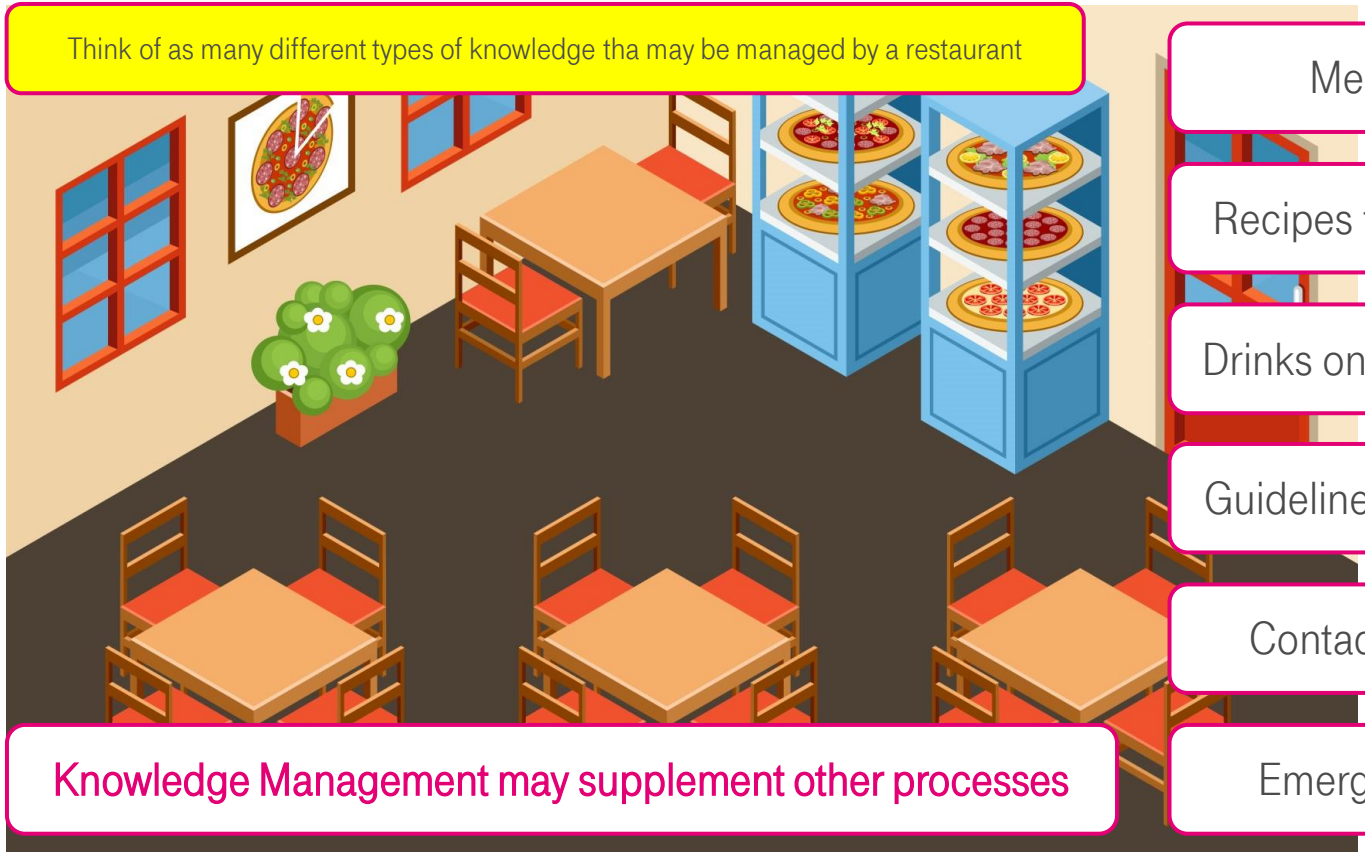
KNOWLEDGE MANAGEMENT

SKMS – Service Knowledge Management System



KNOWLEDGE MANAGEMENT

Think of as many different types of knowledge tha may be managed by a restaurant



- Meal offer (menu)
- Recipes for meal preparation
- Drinks on offer (+ preparation)
- Guideline: How to treat guests
- Contact list of VIP guests
- Emergency contacts list

Knowledge Management may supplement other processes

KNOWLEDGE MANAGEMENT

Popular saying: “People start doing backups after the **second** time they lose data.”

No organization is fully aware of all its knowledge.

After losing knowledge, a review may result in implementation of measures that improve Knowledge Management.

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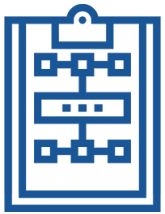

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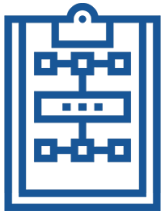

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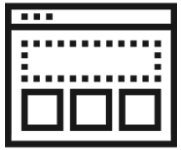

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