

# Using Business Analysis to Meet IT Challenges

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# Overview

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- > Typical **IT challenges**
- > **What is** business analysis and how does it help?
- > How does business analysis **fit into a team?**
- > Case study
- > Getting started

INFORMATION TECHNOLOGY

UNIVERSITY *of* WASHINGTON

Enterprise Architecture & Strategy

# Typical IT challenges

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# Typical IT challenges

## STRATEGY

- What does the organization really need from IT long term?
- Are we prioritizing the right projects?

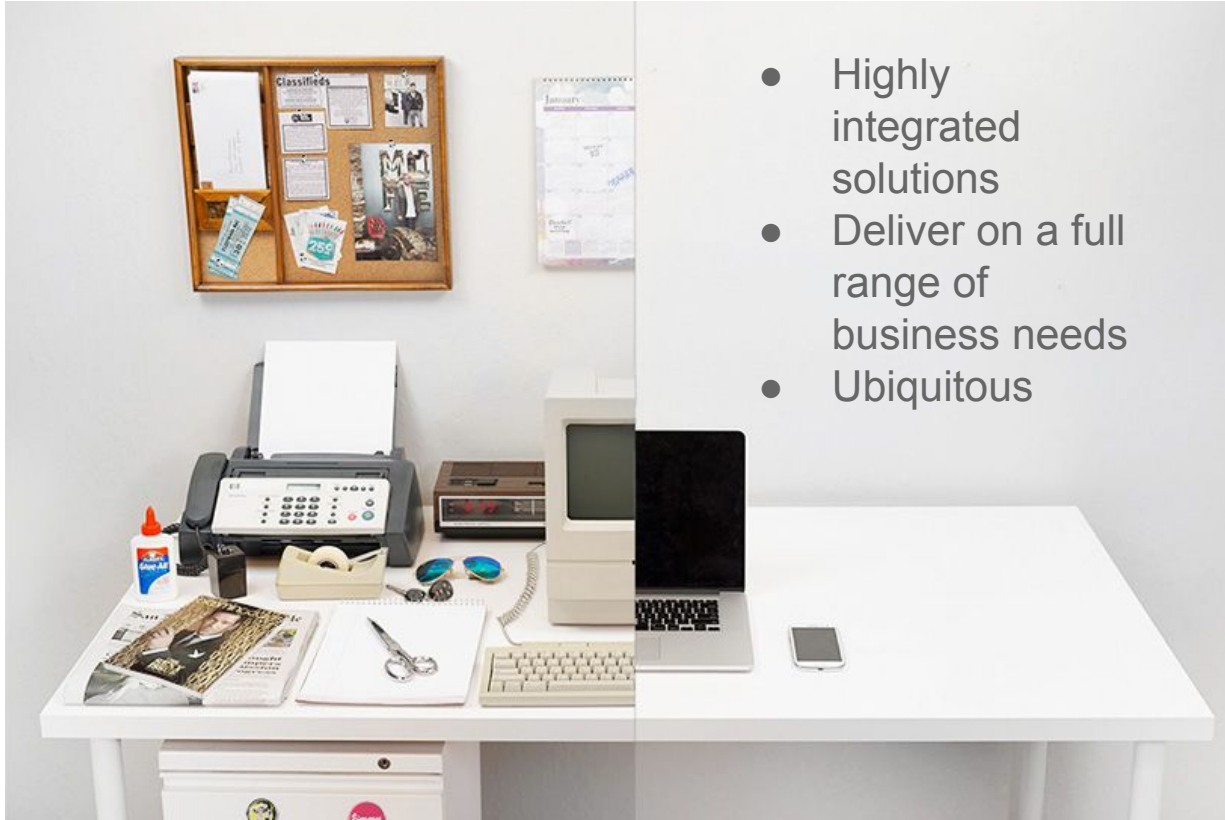
## PLANNING

- Does this project have the right scope and goals?
- Are we planning the right stories for our sprint?

## SOLUTIONS

- What's really most important to users in this solution?
- Would an alternative also meet people's needs?

# Digital trends: 35 years in 36 seconds



- Highly integrated solutions
- Deliver on a full range of business needs
- Ubiquitous

Source: Harvard Innovation Lab

# IT challenges are shifting

## What was:

- IT expertise concentrated in the IT organization
- IT drives cost savings
- Focus on hardware, software and packages
- Standard hiring and recruitment practices
- Specialization

- Specialization
- Single-purpose technical skills
- Hard skills
- Perfect Technology

Automation displaces back office activities

## What will be:

- Focus on revenue, customers, analytics, and industry
- Multi-purpose business-IT skills
- Iterative solutions
- Focus on Strategy

- Versatility
- Multi-purpose business-IT skills
- Iterative solutions
- Focus on Strategy
- Citizen development on the rise
- AI displaces front-office activities

Source: EDUCAUSE, The Future of the IT Workforce in Higher Ed (2017)

# What is business analysis and how does it help?

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## What is business analysis?

“Business Analysis is the practice of enabling **change** in an organizational **context**, by defining **needs** and recommending **solutions** that deliver **value** to **stakeholders**.”

-- *International Institute of Business Analysis*





# Example

## Context

A fast-growing university administrative office, which works closely with several partner offices.

## Changes

Our office staff has grown quickly and we serve far more people. Demand is up, but our customer satisfaction is down.

## Needs

We all need access to the same up-to-date information about the people we serve and what we're doing for them.

## Stakeholders

- Management
- Office staff
- Customers
- Partner offices

## Value

- Better customer service
- Reduced staff frustration

## Solutions

Changes in how we work as an office, perhaps including a new Customer Relationship Management system.

# What are typical business analysis deliverables?

## Context

- Scope statement
- Problem statement
- High level context mapping of processes, systems, data
- Goals and objectives

## Changes

- Drivers
- Strengths, weaknesses, opportunities, threats (SWOT)
- Scenarios
- Projections

## Needs

- As-is assessments of processes, systems, data
- Requirements for to-be processes, systems, data

(requirements can take many forms; that's a topic unto itself)

## Stakeholders

- Stakeholder interviews and notes
- Facilitated stakeholder meetings
- Ongoing stakeholder communications

## Value

- Business case
- Cost-benefit analysis
- Metrics or KPIs

## Solutions

- Evaluation criteria
- Alternative solutions
- Design assumptions
- User stories
- Test cases

# What does business analysis contribute?

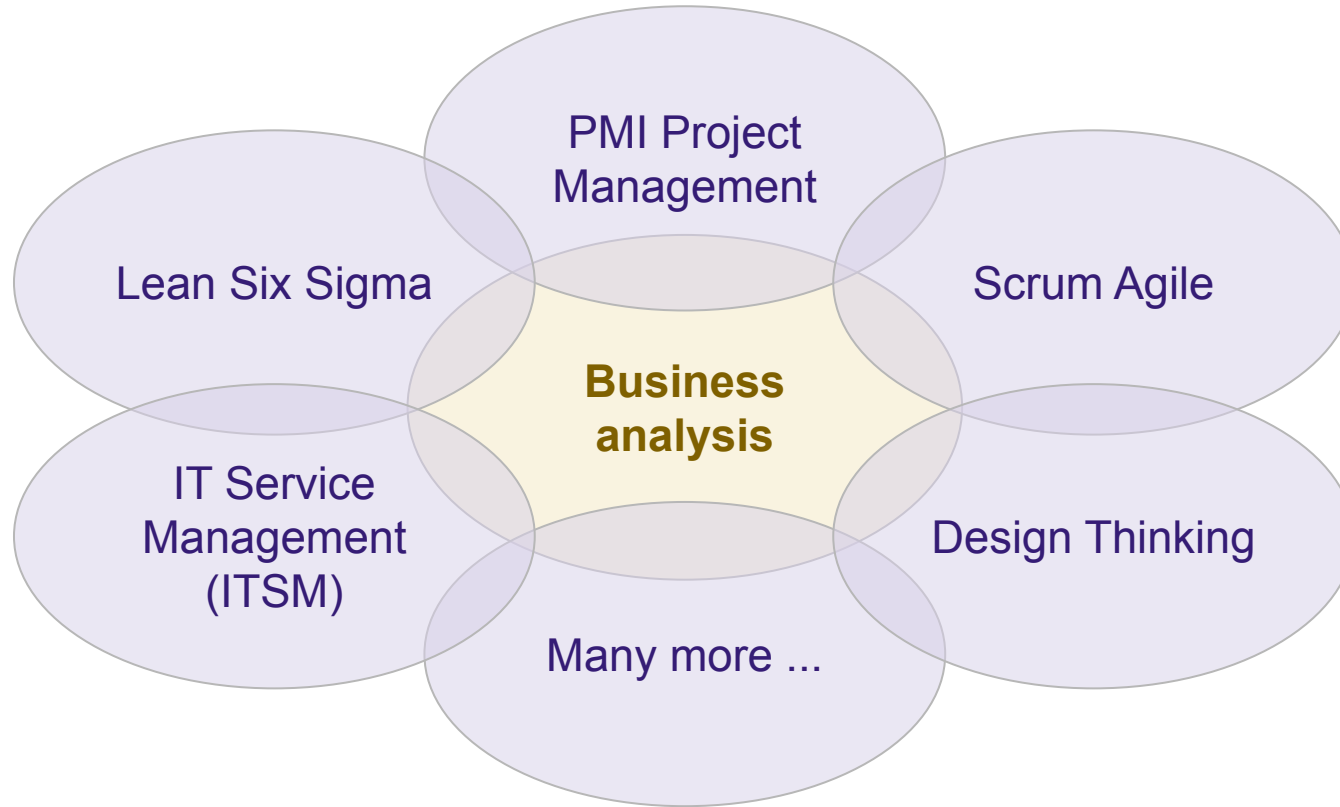
	With good business analysis	Without enough business analysis
<b>STRATEGY</b>		
<b>Context</b>	Context is well understood so the right efforts and scope can be defined.	Work is wasted on the wrong efforts; a different strategy could have achieved more.
<b>Changes</b>	The root causes of changes are understood so the right needs can be defined.	Important changes are not acknowledged; work is wasted on addressing the wrong changes.
<b>PLANNING</b>		
<b>Value</b>	The expected value of the work is well understood and is affordable for the organization.	The return on investment is not clear; stakeholders have conflicting expectations.
<b>Stakeholders</b>	The right stakeholders are represented, contributing their information and goals.	Important stakeholders are missed; their information or goals are not well represented.
<b>SOLUTIONS</b>		
<b>Needs</b>	The true needs are understood so work is focused on the right problems.	Work is wasted on solutions that don't meet the true underlying needs of the organization.
<b>Solutions</b>	An appropriate solution was selected, designed, tested, and is well supported.	The solution does not meet actual needs; it is difficult or costly to test, operate, or support.

# How does business analysis fit into a team?

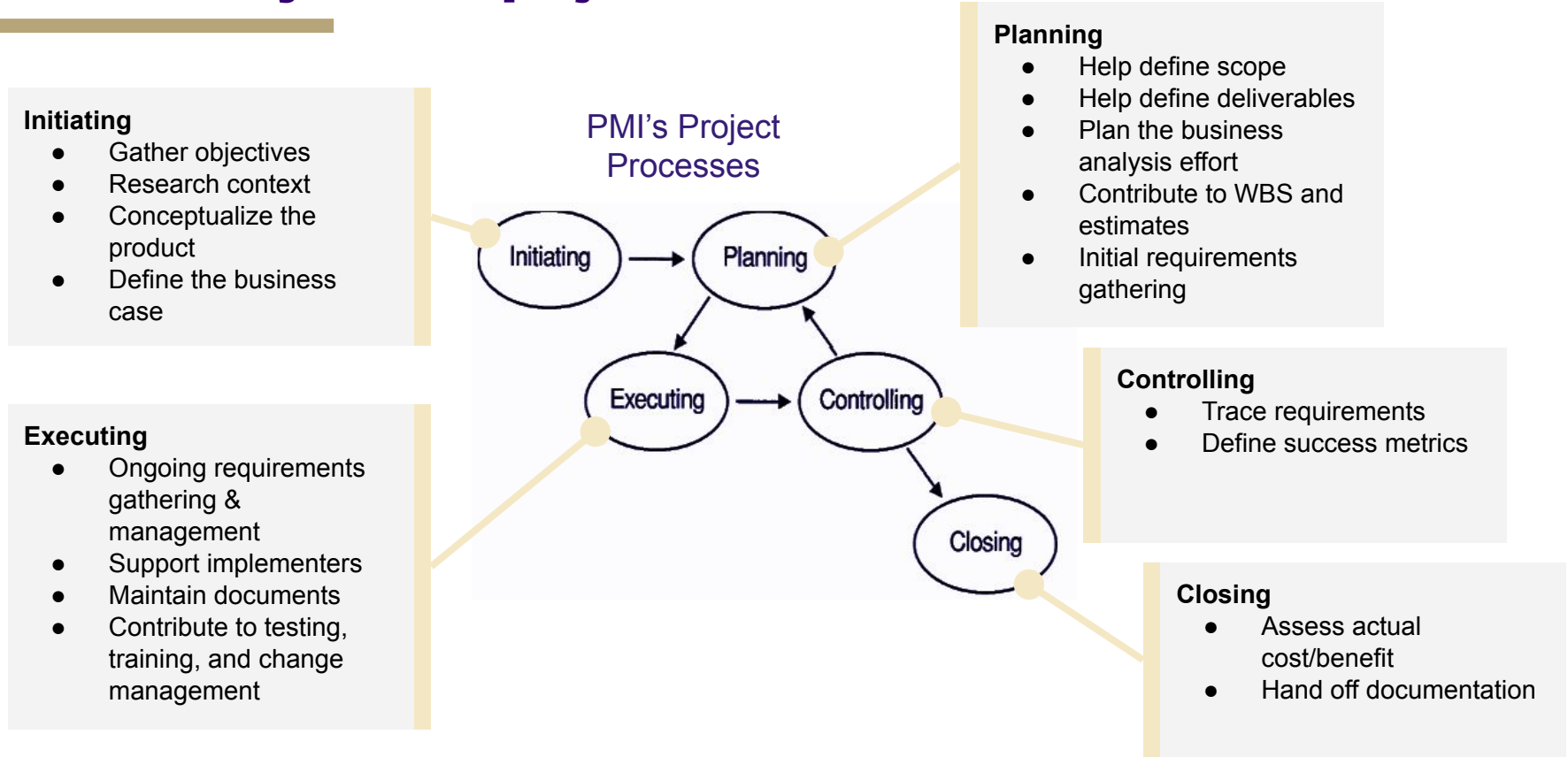
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# Business analysis is not a single methodology



# Business analysis in IT projects



# Business analysis in IT service management

## Service Strategy

- Assess business needs and demand
- Analyze the service portfolio
- Develop the business case for a service

## Service Operation

- Contribute to support
- Maintain documentation
- Catalog recurring issues and unmet needs for CSI or future design iterations



## Service Design

- Develop service requirements such as capacity, availability, security, compliance
- Identify enterprise requirements

## Service Transition

- Gather detailed requirements
- Support implementation
- Contribute to testing, training, and change management
- Document knowledge about the service

## Who does business analysis?

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“**Job titles** for business analysis practitioners include not only business analyst, but also business systems analyst, systems analyst, ... product manager, product owner, ... business intelligence analyst, ... and more.

**Many other jobs**, such as management, project management, product management, software development, quality assurance and interaction design rely heavily on business analysis skills for success.”

*-- International Institute of Business Analysis*

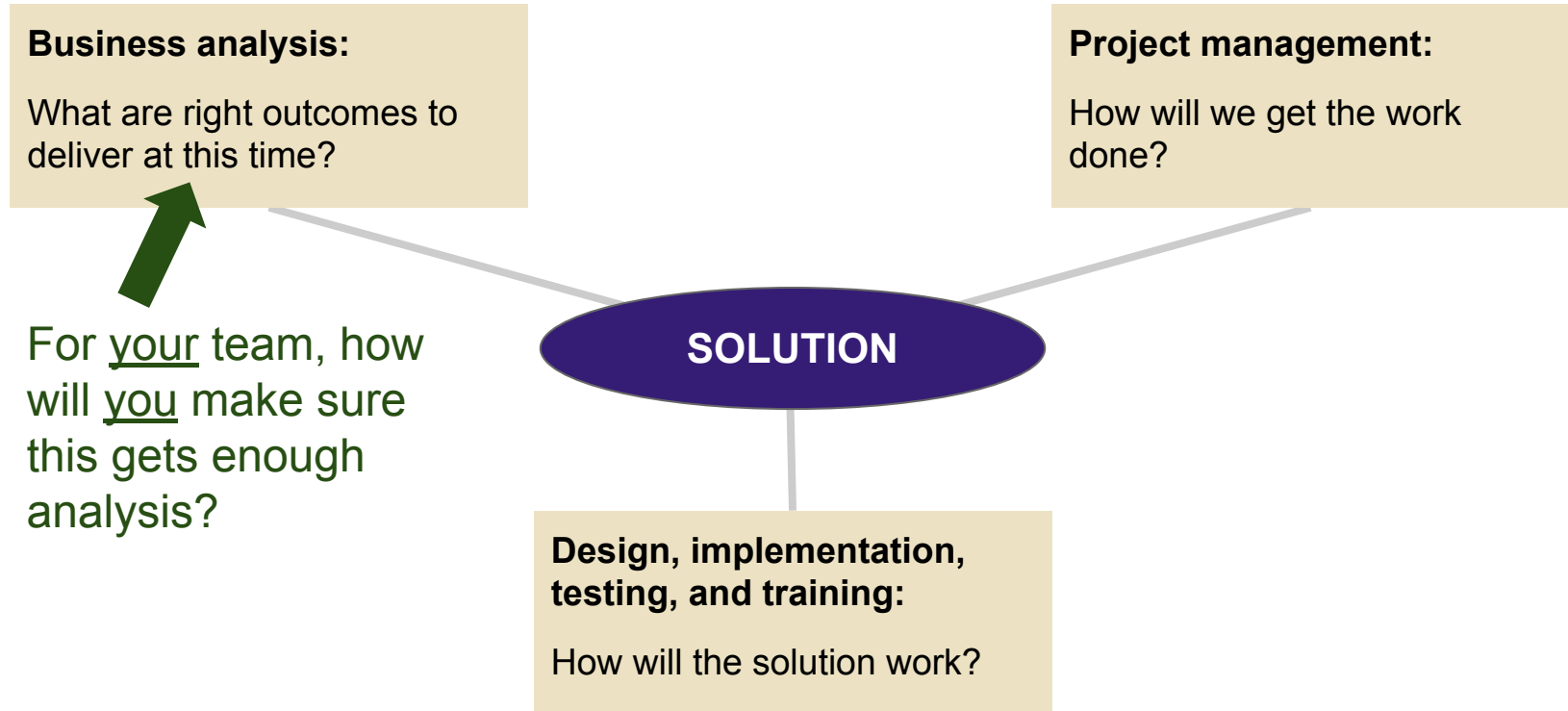


## Roles at the UW that do business analysis

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- > In project teams
  - *Small projects*: PM/BA and/or Programmer/Analyst
  - *Medium projects*: Dedicated BA working with developers and QA
  - *Large projects*: Senior BA leading a BA team
- > In service teams
  - *Common*: Service Owner or Manager doing business analysis
  - *Less common*: Dedicated BA as part of the team
- > In program teams
  - *Common*: Director, manager, or PM doing business analysis
  - *Less common*: Dedicated BA, program analyst, financial analyst, data analyst, etc.

# Different areas of accountability



# Case study

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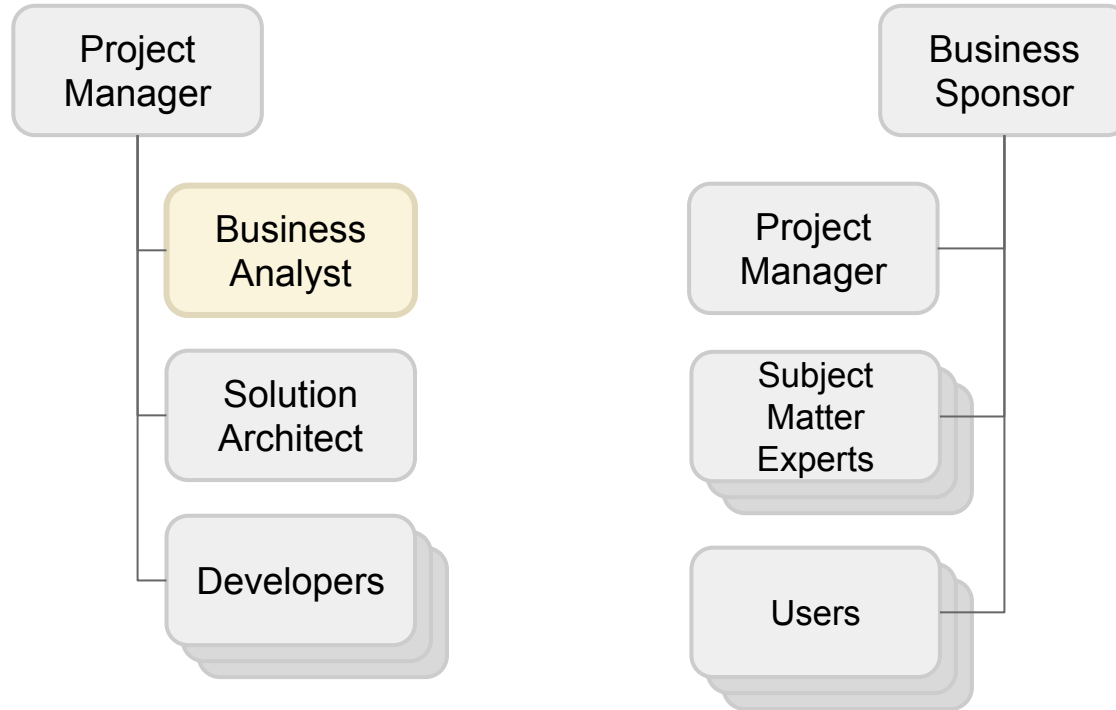


## Case Study Context

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- > Facilities Services contacted UW-IT asking to replace a third-party document management system that was going off support
- > The UW-IT Enterprise Document Management team (fka CONCERT) led a project to create a new solution
- > This case study centers on an IT solution; other business analysis efforts could center more on process changes or data transformation

# Project team



# Discovery

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**Context**

**Changes**

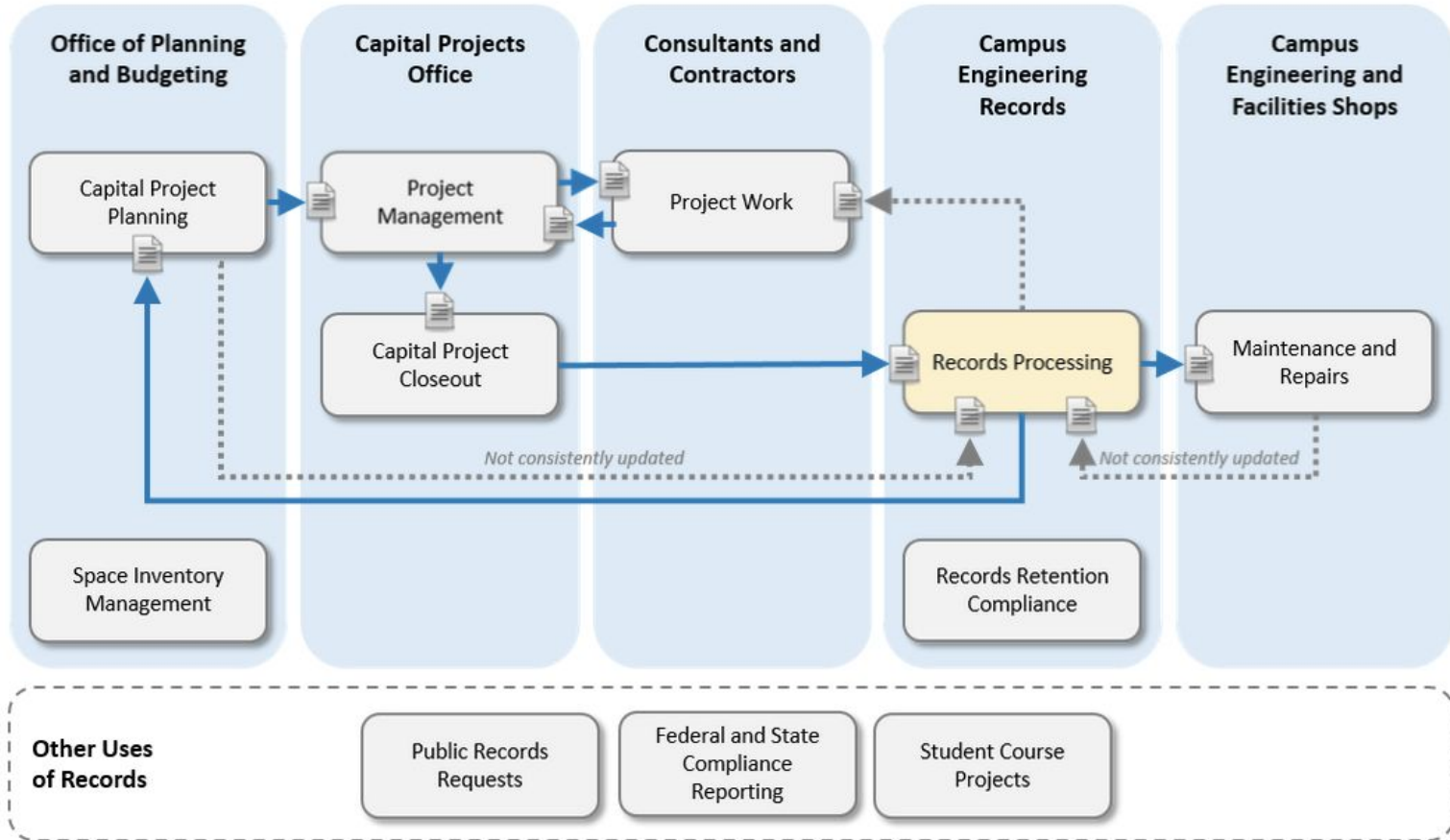
**Needs**

**Stakeholders**

**Value**

**Solutions**

# Context and stakeholders



# Changes in technology, people, process, and policy

● = Must-dos: Part of the min spec enables the process area

○ = Could-dos: Ideas are proposed to better enable the process area

Enablers	Process areas					
	<a href="#">Search</a>	<a href="#">Intake</a>	<a href="#">Backlog</a>	<a href="#">Metadata changes</a>	<a href="#">Versioning</a>	<a href="#">Compliance</a>
<a href="#">Technology &gt; Migration</a>	● ○	●			●	●
<a href="#">Technology &gt; New repository</a>	● ○	● ○	●	● ○	●	● ○
<a href="#">Technology &gt; New web search</a>	● ○				○	● ○
<a href="#">Technology &gt; Workflow automation</a>		○		○	○	●
<a href="#">People and process</a>	●	○	○	○	○	● ○
<a href="#">Policy &gt; Data standards</a>	●	● ○	○	○	○	
<a href="#">Policy &gt; Security</a>				○	○	● ○
<a href="#">Policy &gt; Records retention</a>						●



# Meeting IT challenges

## STRATEGY

- What does the organization need from IT long term?
- Are we prioritizing the right projects?

- > Broad context of business challenges where IT could seek to provide value
- > Broad view of related technology, people, process, and policy changes
- > Prioritization of “musts” and “coulds”

# Definition, Design, & Implementation

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Context

Changes

Needs

Stakeholders

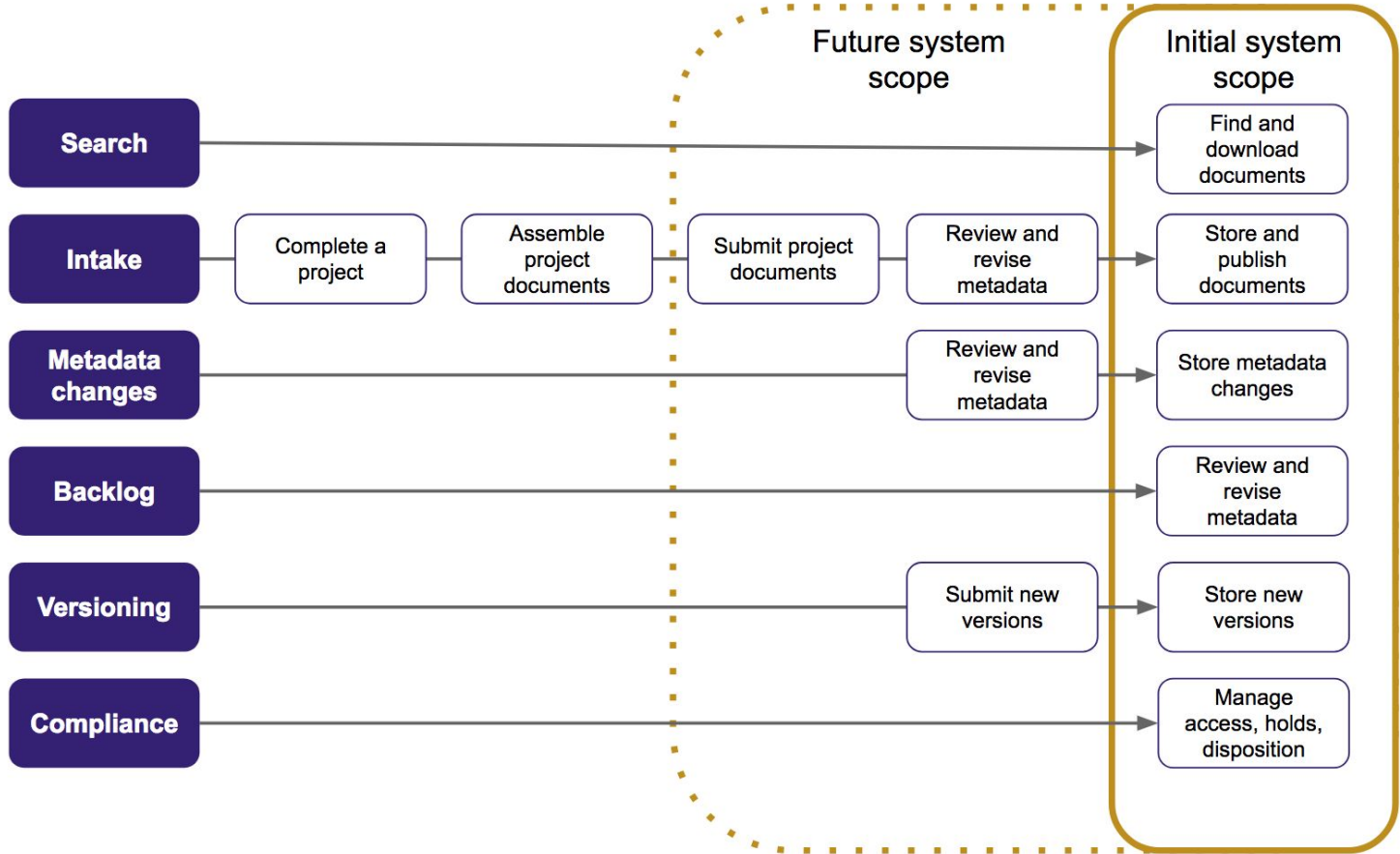
Value

Solutions

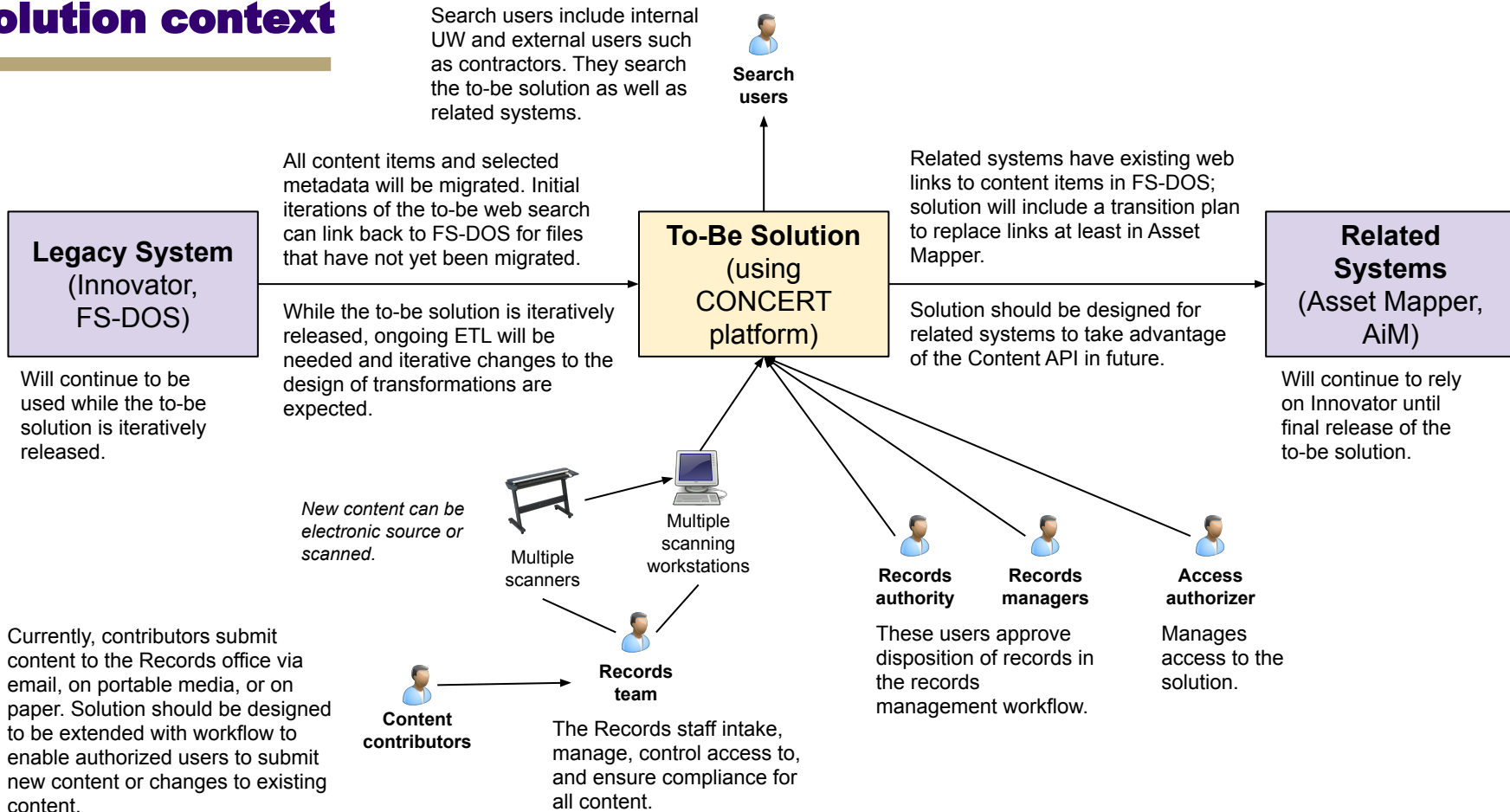
## Prioritizing needs

<i>Enabler</i>	<i>Must-dos</i>	<i>Could-dos</i>
Technology > Migration	<ul style="list-style-type: none"> <li>● Migrate all existing documents to the new repository, along with metadata on each document</li> <li>● Convert existing document cross-listings</li> <li>● Convert existing internal comments on documents</li> <li>● Convert existing reference tables (Facilities, Projects, and Consultants)</li> </ul>	<ul style="list-style-type: none"> <li>○ Re-organize existing disciplines and document types during migration to improve search</li> <li>○ Eliminate the old building numbers</li> <li>○ Index the full text of existing PDFs (that already contain text)</li> <li>○ Perform OCR on existing PDFs (that don't already contain text)</li> <li>○ Find and correct abbreviations in metadata during migration</li> <li>○ Import CAD files previously stored in Drobo into the new repository</li> </ul>
Technology > New repository		<ul style="list-style-type: none"> <li>○ Index the full text of newly added PDFs (that already contain text)</li> <li>○ Perform OCR on newly added PDFs (that don't already contain text)</li> </ul>
Technology > New web search	<ul style="list-style-type: none"> <li>● Replace FS-DOS with an easier to use search engine</li> <li>● Enable users to search all available metadata</li> <li>● Provide a transition plan for existing links to documents from GIS <u>AssetMapper</u></li> </ul>	<ul style="list-style-type: none"> <li>○ Enable full text search across PDFs (that contain text)</li> <li>○ Enable faceted search to more easily refine search results</li> <li>○ Enable users to save frequently used searches for later use</li> <li>○ Enable users to save frequently used documents for later reference (favorites)</li> <li>○ Provide a compressed preview of drawings before downloading the full drawing</li> </ul>
People and process	<ul style="list-style-type: none"> <li>● Train users on new web search</li> </ul>	<ul style="list-style-type: none"> <li>○ Create and train people to use a single starting point (home page) for searching across related systems</li> </ul>
Policy	<ul style="list-style-type: none"> <li>● <i>Data</i>: Analyze existing metadata to</li> </ul>	<ul style="list-style-type: none"> <li>○ <i>Data</i>: Standardize metadata categories to facilitate cross-linking and</li> </ul>

# Solution scope



# Solution context



## Example: Use case

### Use Case 1.2: Share Search Results

**Description:** Enable Search User A to share a search result or content item with Search User B, so that person can run the same search and view content items.

**Priority:** Must-do

**Actors:** Two Search Users, System

**Triggers:** Search User A has reached a search result they want to share (see [C1.1 Find and View Content](#))

**Basic flow:**

1. Share search result
  - a. Search User A copies the URL specifying the search and makes it available to Search User B, for example as:
    - i. A link in an email
    - ii. A link on a web page or displayed by a web application
2. Receive search result
  - a. Search User B clicks on the link
  - b. Search User B logs in with their NetID
  - c. The System displays the search results specified by Search User A
  - d. Search User B views content items or revises the search (see [C1.1 Find and View Content](#))

**User story:** As a search user, I want to send a link to another person so they can see the same search results I found.

**Alternative flows:**

1. Share content item link
  - a. Search User A copies the URL specifying a single content item and makes it available to Search User B
  - b. Search User B logs in and views the content item, as above

# Meeting IT challenges

## PLANNING

- Does this project have the right scope and goals?
- Are we planning the right stories for our sprint?

## SOLUTIONS

- What's most important to users in this solution?
- Would an alternative also meet people's needs?

- > Clear current vs. future scope
- > Prioritization of “musts” and “coulds”
- > Requirements based on real-life use cases
- > Solution-agnostic requirements

# Example: User interface wireframe

## End user content search v1

From discussion on 6/26

The wireframe shows a search interface with the following components and annotations:

- Header:** A grey bar at the top containing the text "Header".
- Search Controls:** A search box with a dropdown menu set to "Facility" and a search button labeled "Advanced search".
- Facets:** A blue pill-shaped filter showing "Facility = 4595 UW Tower Building O" with a close button "X".
- Sort and Pagination:** A grey bar containing "Sort by: Date (newest first)" with a dropdown arrow, and "75 items: Page: 1 2 3 ... 8".
- Facet Lists:**
  - Year:** A list of years with counts: 1999 (6), 1985 (55), 1938 (5), 1922 (2), 1921 (4), 1908 (3).
  - Discipline:** A list of disciplines with counts: Architectural (72), Mechanical (2), Civil (1).
  - Project:** A partially visible list header.
- Search Results:** A large grey area containing the text "Search results (see search results wireframes)".

**Annotations:**

- "Start by selecting the primary type of search: Facility, Project, Text, or Full Text (including document text)" points to the search dropdown.
- "For Facility or Project search, provide 'type ahead' in the search box to enable the user to select an item from a reference table" points to the search input field.
- "Currently applied filters are visible and can be removed individually" points to the blue filter pill.
- "Facets enable the user to understand and filter what is available within their initial search" points to the facet lists.
- "If a facet is selected, it is added above as a visible filter that can be removed again" points to the filter pill.
- "The legacy system has sorting on every column in the search results; we could propose a selection of common search orders instead" points to the sort dropdown.
- "We can provide manual paging or potentially auto-paging (if performance permits)" points to the pagination controls.

[Tutorial](#) | [Request access](#)

[Advanced search](#)

Facility = 4595 UW Tower Building O X

Sort by: Date (newest first)

75 items: Page: 1 2 3 ... 8

### Year

[1999](#) (6)  
[1985](#) (55)  
[1938](#) (5)  
[1922](#) (2)  
[1921](#) (4)  
[1908](#) (3)

### Discipline

[Architectural](#) (72)  
[Mechanical](#) (2)  
[Civil](#) (1)

### Project

**Search results**  
 (see search results wireframes)



# Reflection: Business analysis works at multiple altitudes



**Cloud**

Organization  
strategy



**Seagull**

Process context

Priorities for  
change



**Sea**

Burning platform

System context



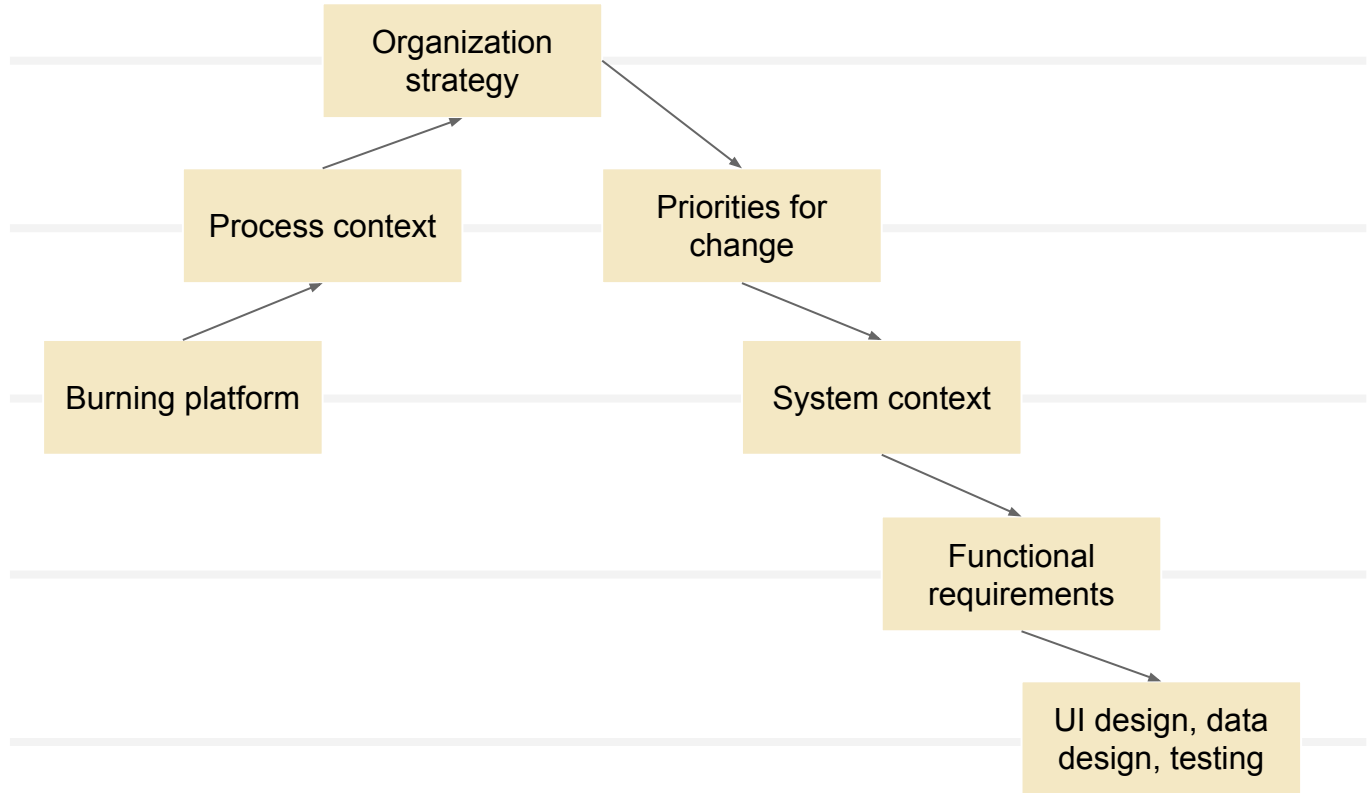
**Fish**

Functional  
requirements



**Clam**

UI design, data  
design, testing



# Typical IT challenges

## STRATEGY

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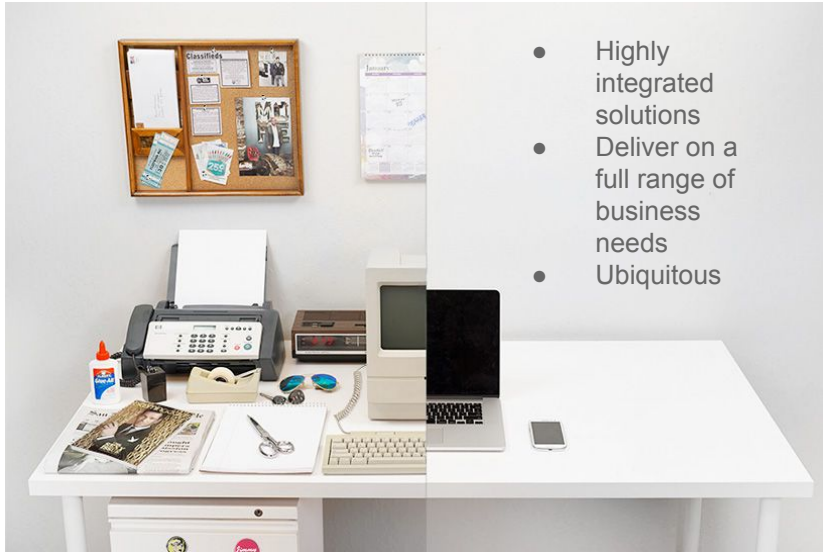
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# Trends and changes



- Highly integrated solutions
- Deliver on a full range of business needs
- Ubiquitous

- Specialization
- Single-purpose technical skills
- Hard skills
- Perfect Technology



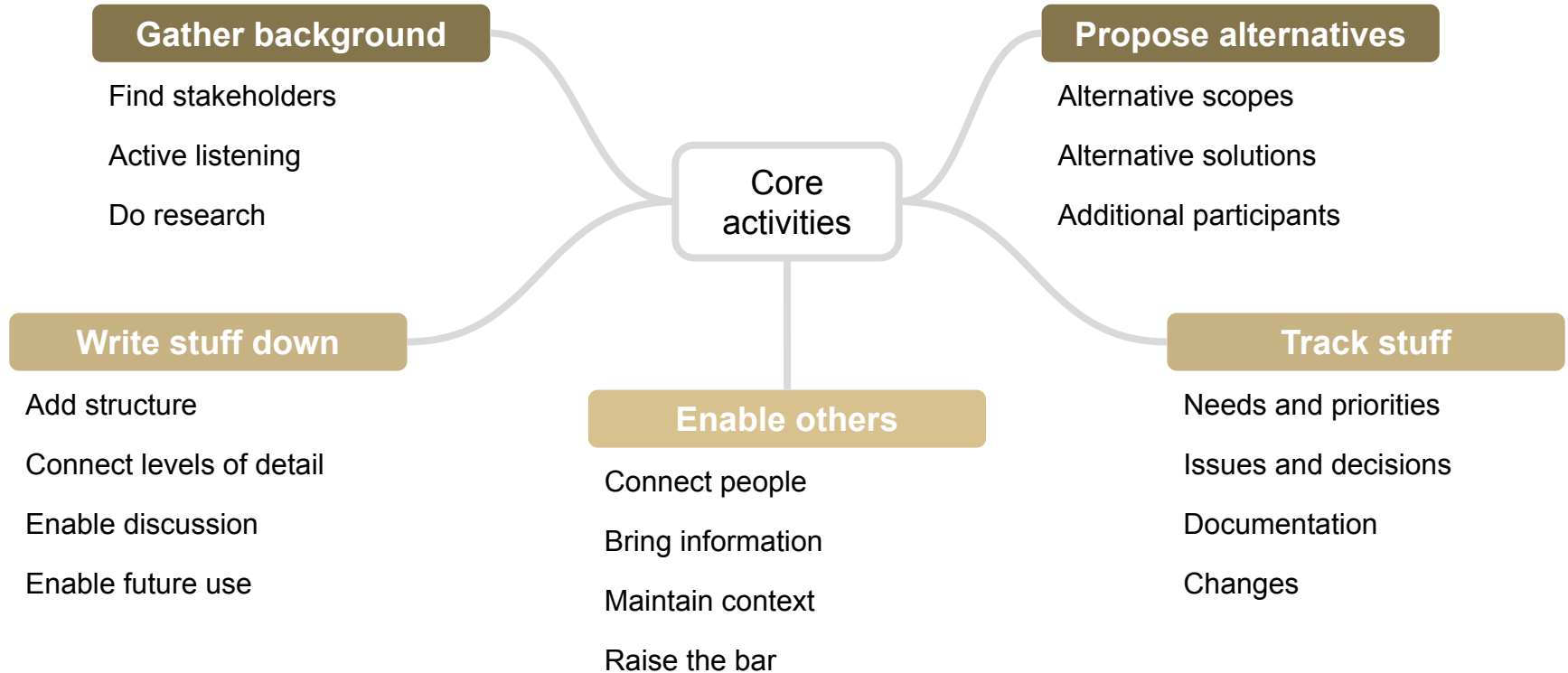
- Focus on revenue, customers, analytics, and industry
- Multi-purpose business-IT skills
- Iterative solutions
- Focus on Strategy

# Getting started

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# Getting started: Five areas to practice in



## Resources

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- > Your peers in the UW Business Analysis Community of Practice
  - <https://wiki.cac.washington.edu/display/BAC/>
- > International Institute of Business Analysis
  - <http://www.iiba.org/>
- > Project Management Institute, [Business Analysis Practice Guide](#)
- > **Just do it** ... pick a business analysis activity you're interested in, get your manager's agreement, and try doing that work for your team!