

# Software system change, modernization – a new approach *tech- & tool-independent*



Peter Czernecki  
CEO

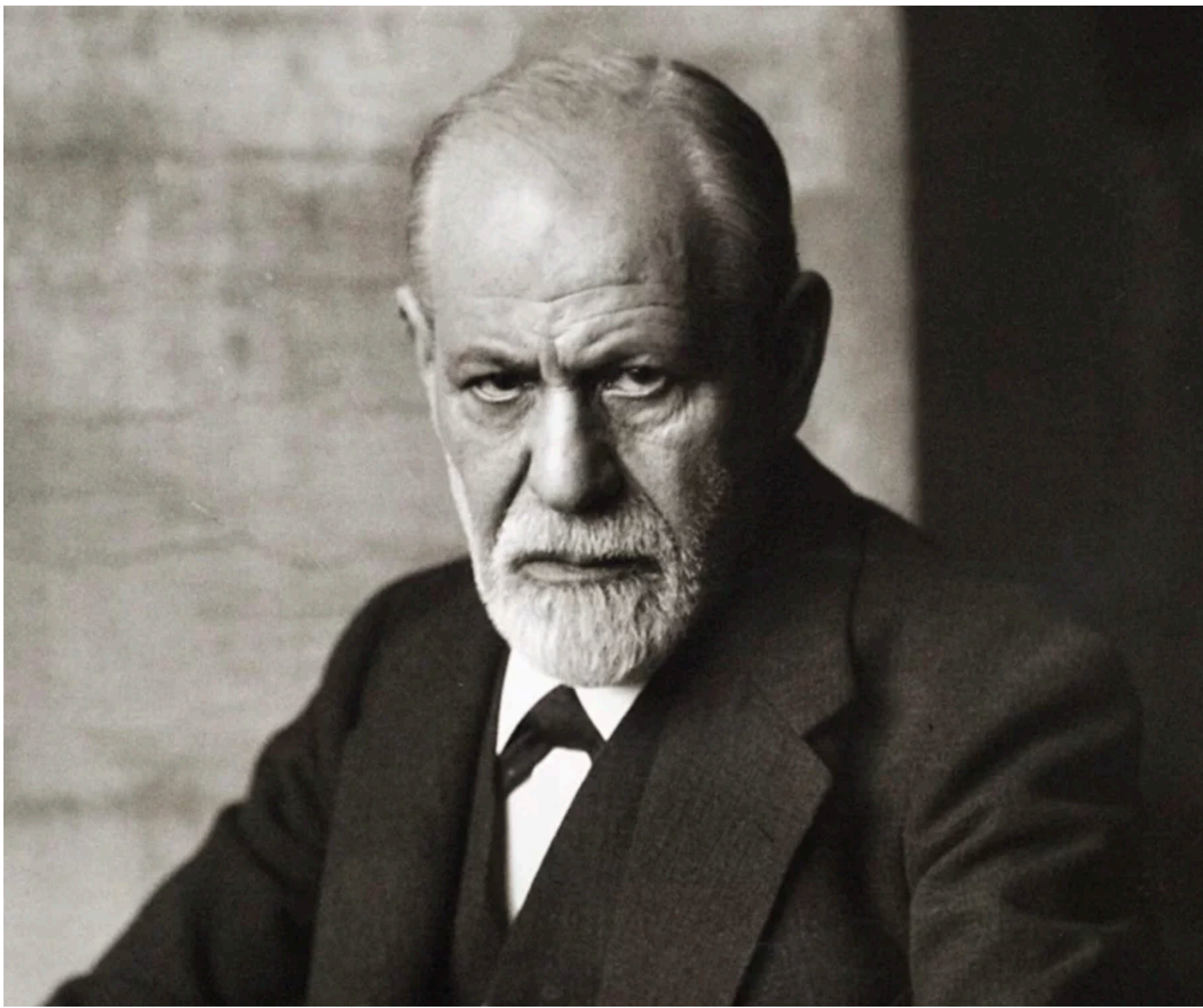


Peter Lodi  
BA, PM



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CTO, DEV





# **Our objective: You + your legacy software**



**the key to happiness**

1

# iNTRODUCTION



This is not a typo

# Peter Czernecki - iAGE



**20 years** building businesses with IT

**\$300 Mln**

**value created** with Private Equity investors

**Tough guy: IT & business background**

**BSc in IT & University of Chicago (MBA High Honors)**

“Where fun comes to die”

**I am funny. Sometimes.**





# Team



**15 years+ experience each**

**Trusted partners of CEO's, CFO's, CTO's & users**

*A Hungarian is who enters the revolving door last and leaves it first (Leo Szilard, father of H-bomb)*

Budapest  
San Francisco  
We are hiring!

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# What we do

IBM i  
modernization  
tool & technology  
independent  
strategy & tactics

We develop  
software that users  
love, on time within  
budget on IBM I &  
other platforms



*Hungarians Founded Hollywood & later invented  
the less dangerous A-bomb*

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# iAGE numbers

10

years

200+

projects

3

continents

100%

success rate



Canon

OLYMPUS

RUUKKI

BUNGE



Swedwood

RICOH



BÖLLHOFF

CIB BANK



Morgan Stanley





# 2

## Modernization - basics



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# A note

Do small, slight differences matter?

# How about you? Modernization

Who **completed, fully**, modernization?

Who **will do it next year**?

Who **knows the tools** available?

Who has **management commitment** for it?

How long do you think it is to get it?

Who knew/knows the **business strategy**  
before starting the modernization?

Who has the **budget** for it?

Who has the **people** for it?

Usually  
1 in 30-50  
people  
says yes or  
has all  
answers  
to all these

# One thing IT forgets

**Ian Sommerville**  
**1975**

**smetsys ygonlhcet-**oicos****

**Any significant system-related decision &  
change is **not** a technical choice **only****

**People ->> management + \$\$\$**

**As such:  
decisions & change  
take much more time & effort vs planned**

**BUT**

**People + management + \$\$\$**

**People are driven by the situation**

**The situation is driven by expectations**

**“THE SITUATION” (incl. expectations)**



# The power of the situation

Jane Elliot – Blue eye, brown eye

Stanford prison experiment

Stanley Milgram experiment

# Fundamental model

**“THE SITUATION” (incl. expectations)**

**Doers**

**Sitters**

**Quitters**

**“I can influence my  
fate and I do”**

**“I wait and see what  
happens”**

**“I do not care about it  
anymore, I leave”**

Which one of these are you?

And your people?

And your business, when it comes to IBM i?

# Fundamental model – IBM i

## “THE SITUATION” (incl. expectations)

**Doers**

**Sitters**

**Quitters**

“I can influence my  
fate and I do my best”

Has a budget for the  
new stuff + R&D

“I wait & see what  
happens”

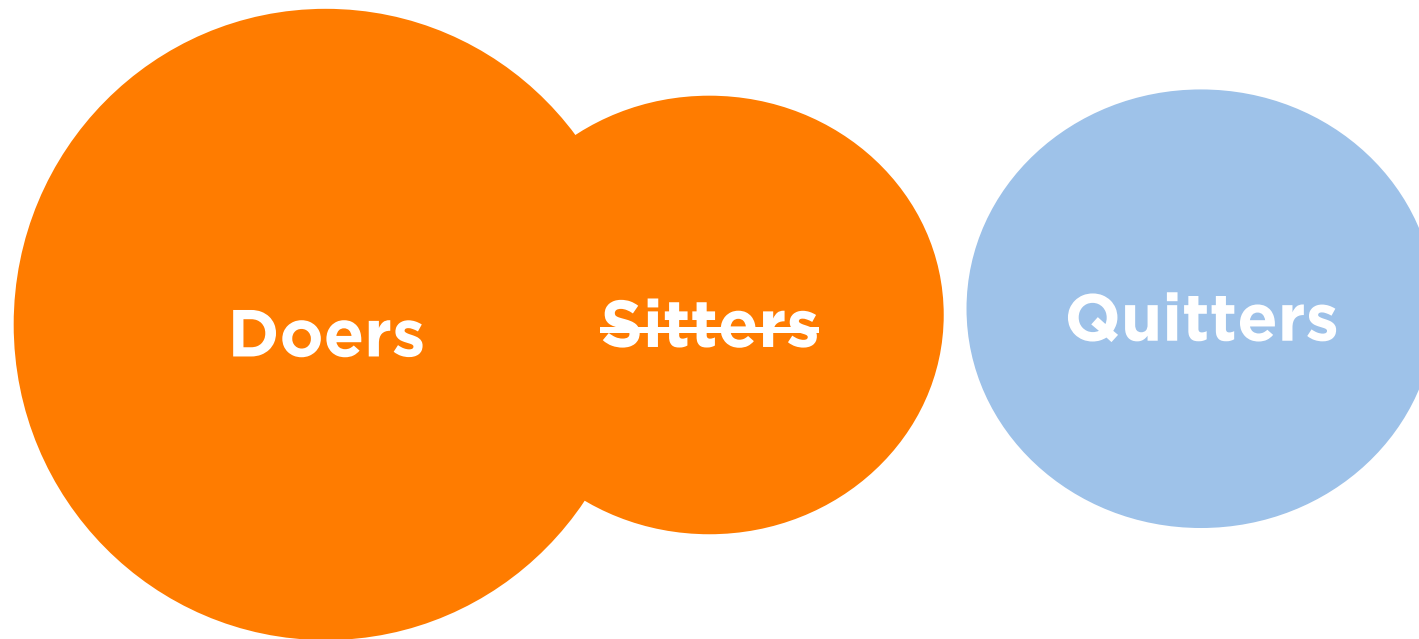
Runs business as it is  
and “will see what  
happens”  
Waits when  
management gives  
him/her money

“I do not care about it  
anymore, I leave”

Leaves the platform,  
the CIO leaves the  
company

# Fundamental model

EXPECTATIONS => “THE SITUATION”

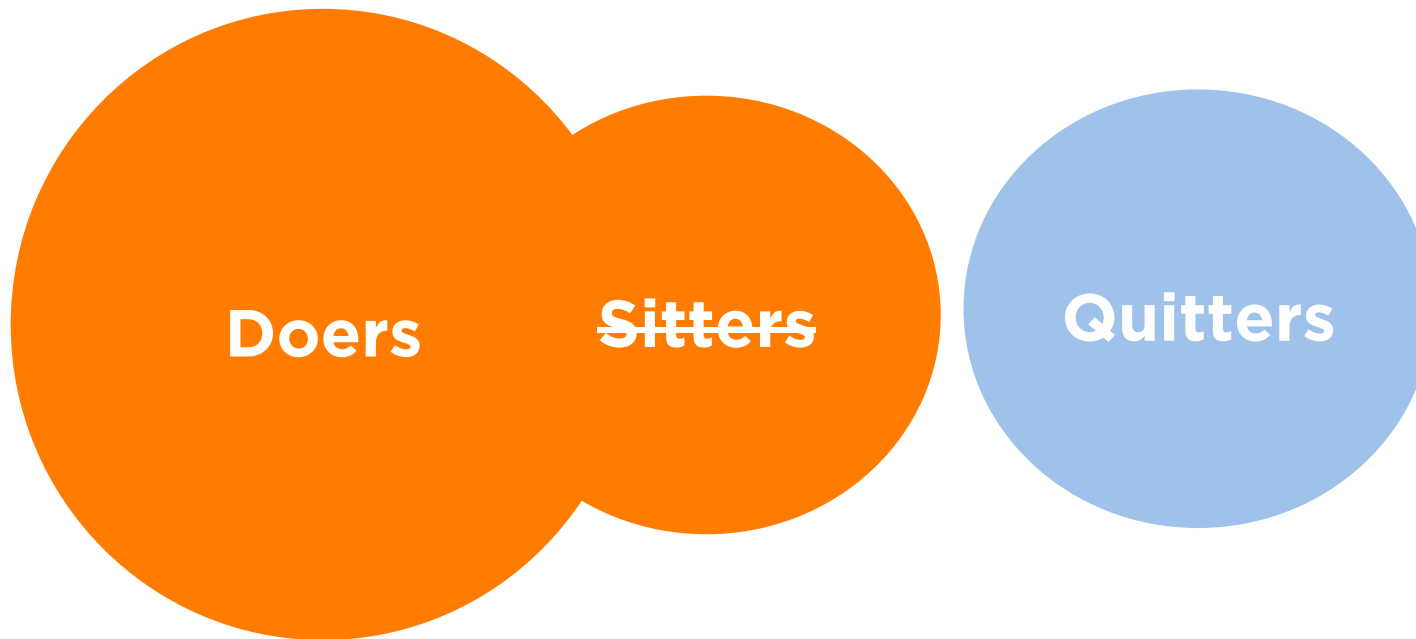


**Sitters will join doers, if they see Doers will win**

(and will join Quitters if quitters win!)

# YOU -> SITUATION

EXPECTATIONS => “THE SITUATION”



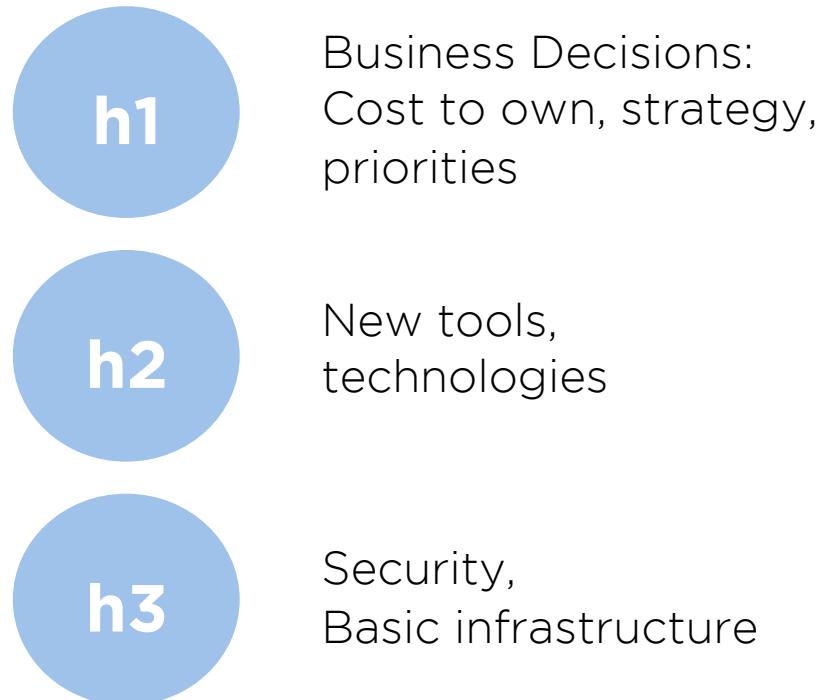
You determine the situation

How?

# How to be(come) a doer?

EXPECTATIONS => “THE SITUATION”

## “Hard” factors



## “Soft” factors



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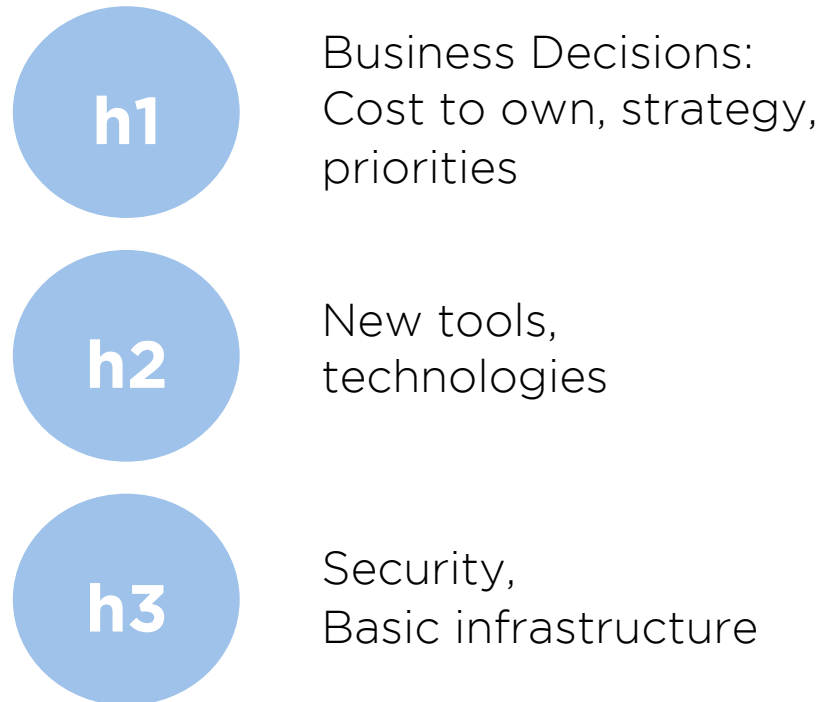




# How to be(come) a doer?

EXPECTATIONS => “THE SITUATION”

## “Hard” factors



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# SOFTWARE CHANGE, MODERNIZATION *s1* **PEOPLE**

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# People



**NUMMI**

**“It is not the people but the situation”**

[NUMMI on Wikipedia](#)

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# People - NUMMI

## Background

The Fremont Assembly factory - General Motors , 1982

Fremont employees[31] were "considered the worst workforce in the automobile industry in the United States" Drinking, low discipline, high employee turnover

## Makeover – REOPENING WITH TOYOTA – 2 YEARS LATER

The goal was to produce high quality at low cost, but supported by including workers in the process.[34] The choice of the Fremont plant was unusual. When NUMMI reopened the factory, 85% of the troublesome GM workforce was rehired, with some sent to Japan to learn the Toyota Production System.

Emphasis on quality and teamwork ... same uniform, parking and cafeterias for all levels of employment in order to promote the team concept, and a no-layoff policy.

Built-in process quality and employee suggestion programs for continual improvement Consensus decision-making

By December 1984, the first car, a yellow Chevrolet Nova rolled off the assembly line. And almost right away, the NUMMI factory was producing cars at the same speed and with as few defects per 100 vehicles as those produced in Japan,[41][14][15] with higher worker satisfaction

# Our example

- A client in Mexico

Failing projects, sometimes: chaos

-100's of RFC's

-No proper status, deadlines



# Agile IT - people 😊

IT Management	IT people	Business people
Role model!	Train	Train
Do you use the latest technology? Phone	Empower	Empower
Are you lean & agile yourself? -speed -focus -rapid experimentation	Process: daily standup: -speed -focus -not a problem solving forum!	Process: daily standup with them!

Results:

Business 😊

IT people 😊

IT management 😊

<http://ibmsystemsmag.com/blogs/open-your-i/december-2017/ibm-i-open-source-and-the-talent-that-follows/>

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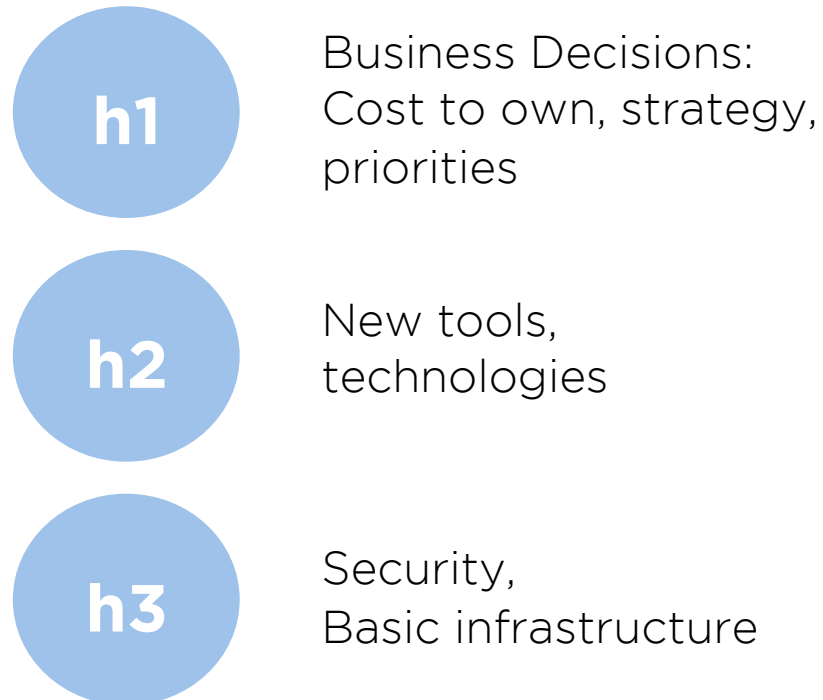




# How to be(come) a doer?

EXPECTATIONS => “THE SITUATION”

## “Hard” factors



## “Soft” factors



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# SOFTWARE CHANGE, MODERNIZATION s2 **AGILE APPROACH**

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# IT system change approaches

Do nothing	Go big	Go big, tool-driven
Less risky in the short run	You may fail	You may fail
Now costs 0	\$\$\$	\$\$\$
Management 😊	Management 😊😞😊😞😊😞	Management 😊😞😊😞😊😞
Long term result: 😞	Long term result: 😊	Long term result: 😊
Your IT people: 😞	Your IT people: 😞😊	Your IT people: 😞😊

# Business, steps

Theory – „brain surgery? simple!”

Prepare 6 – 12 months	Decide 3 months	Execute 12 months
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Steps forgotten – **OMG**

	Identify business benefits 3 months	Refine business needs 3 months	Decide 3 – 24 months	Data cleansing, migration 3 – 12 months
Set Business Strategy 6 months	Prepare 6 – 12 months	RFQ 2 months	Decide 3 months	Execute 6 – 60 months
	Analyze what you have 3 – 6 months		Contracting 2 months	Repeated integration 6 – 60 months



# +Inherent problems

IT interests	Joint interests	Business interests
	Success 😊	
	Low risk	
	Low cost	
Keep IT running		Keep business running
Keep and find IT talent		Make users & mgmt satisfied
Get \$\$\$ for IT	↔	Keep IT costs low
IT security, legislation	↔	Do things fast
Prioritize requirements	↔	"I want it all, I want it now"

# We need a new approach

**IF**

Management 😊😞😊😞😊😞

Your IT people: 😞😊

Time: 😞😞😞

Risk: 😞😞😞

**THEN**

# SAFE Agile modernization

Do nothing	Go big	Go big, tool-driven	SAFE Agile modernization
Less risky in the short run	You may fail	You may fail	Less risky in the short and long run
Now costs 0	\$\$\$	\$\$\$	\$ - \$\$\$
Management 😊	Management 😊😞😊😞😊😞	Management 😊😞😊😞😊😞	Management 😊
Long term result: 😞	Long term result: 😊	Long term result: 😊	Long term result: 😊
Your IT people: 😞	Your IT people: 😞😊	Your IT people: 😞😊	Your IT people: 😊😊😊

# SAFE Agile modernization

**Steps - 3-6-months projects - EVERY 3 - 6 months**

	<b>Select critical business benefits 1 months</b>	Refine business needs 3 months	Decide 3 - 24 months	Data cleansing, migration 3 - 12 months
<b>Set Business Strategy 6 months</b>	<b>Prepare 1 months</b>	<b>RFQ 1 months</b>	<b>Decide 1 months</b>	<b>Execute 3 months</b>
	Analyze what you have 3 - 6 months		<b>Contracting 1 months</b>	<b>Repeated integration 3 months</b>

## Benefits

Management 😊😊😊 Your IT people: 😊😊😊 Time: 😊😊😊 Risk: 😞

**+get things moving and get \*/#t done**

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# Note: SAFE agile

## **SAFE Agile is NOT:**

- Having no strategy
- No architecture
- No planning
- No documentation

## **SAFE Agile is:**

- Experimentation
- New tools
- Training already existing people

# Note #2

**Agile** modernization is  
not a **project** but  
is an ongoing **process**

**Evolution vs revolution**



# How to be(come) a doer?

EXPECTATIONS => “THE SITUATION”

## “Hard” factors



Business Decisions:  
Cost to own, strategy,  
priorities

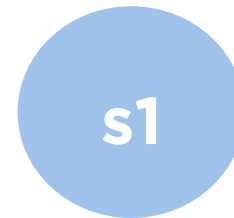


New tools,  
technologies



Security,  
Basic infrastructure

## “Soft” factors



People



Approach,  
method



Strategy

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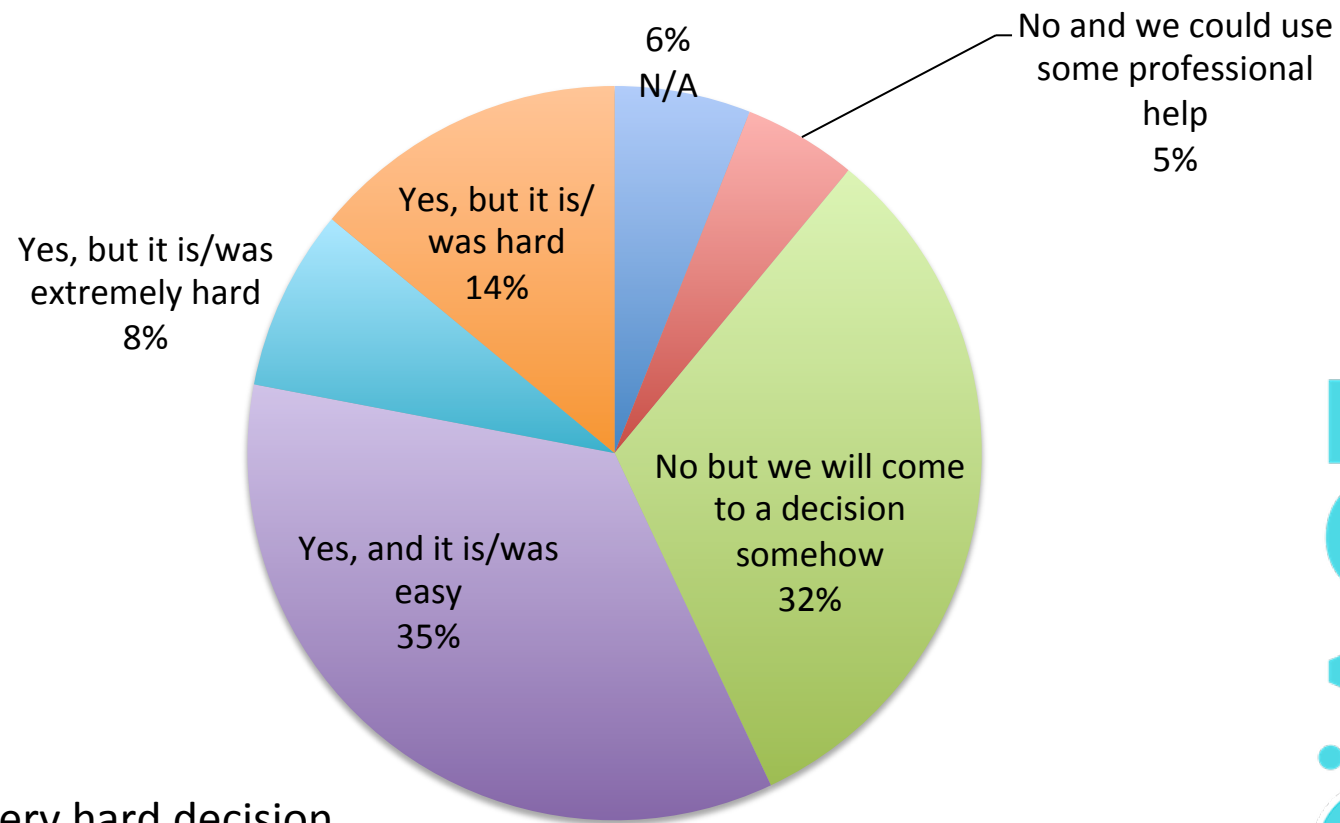
# SOFTWARE CHANGE, MODERNIZATION h1 **AGILE DECISIONS**

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# Modernization decision - Others

Has it been already decided whether  
to Stay on or Migrate away from the Platform?



22%: hard or very hard decision  
32% will get to a decision

# Modernization decisions: factors

Business Strategy	Business & organizational	Technical	Approach
Merge with other company or buy or be sold	What are benefits, costs, risk – does it worth it?	Stay or move	Big bang vs step by step vs agile
Outsource some activity	Urgent other priorities	Build or buy tool	Do it in-house or outsource
Expand / contract: geography or activity	Management's beliefs		
+Competitors' moves	Organizational politics		

## Agile approach: 1 page decision sheet

# Business Decisions: Cost to own, strategy, priorities

See our agile decision sheet to start  
projects tomorrow



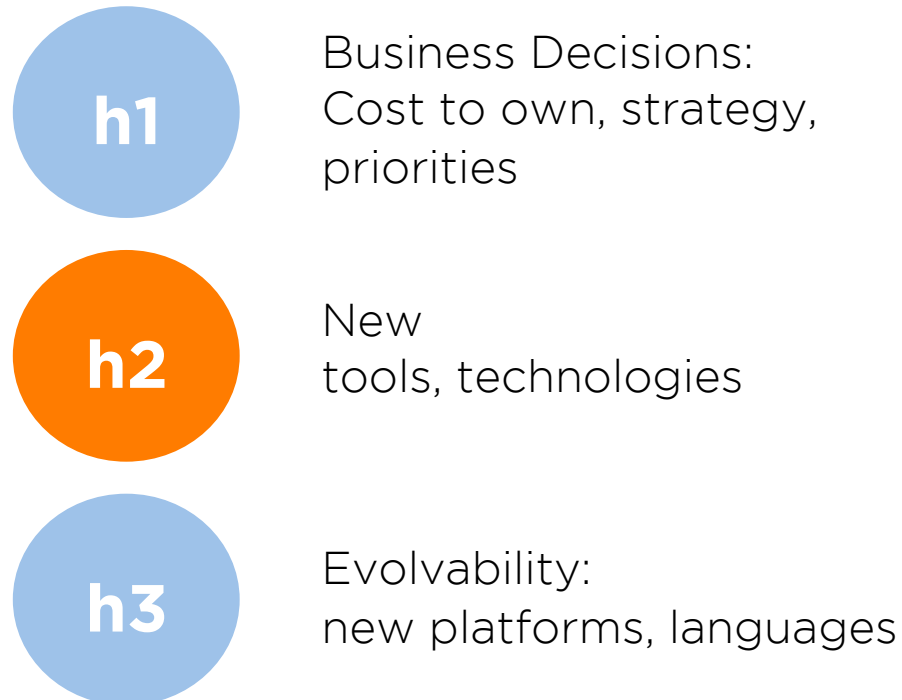
Worksheet



# How to be(come) a doer?

EXPECTATIONS => “THE SITUATION”

## “Hard” factors



## “Soft” factors



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# SOFTWARE CHANGE, MODERNIZATION new tools, technologies

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# Tools, technologies

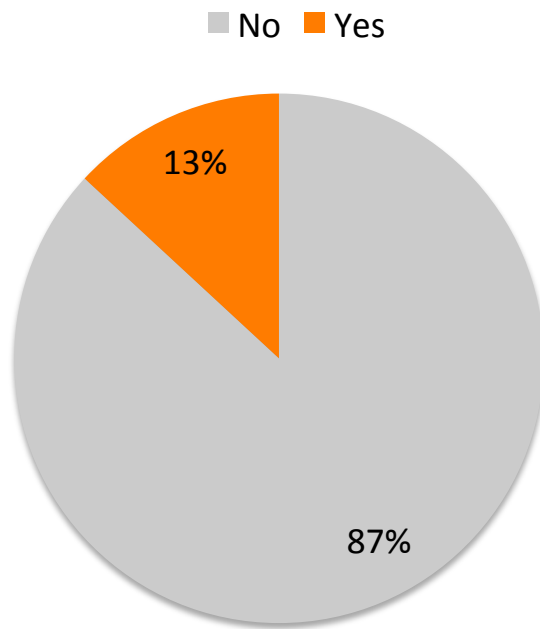
What makes you modern **today**?

And **tomorrow**?



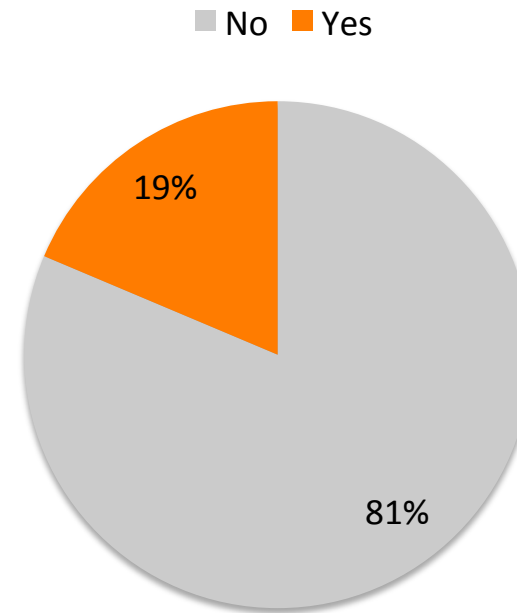
# Technologies – iAGE survey samples

**Do you have an iOS app integrated with IBM i?**



Technology used: 3 others,  
the rest: Objective-C/SWIFT

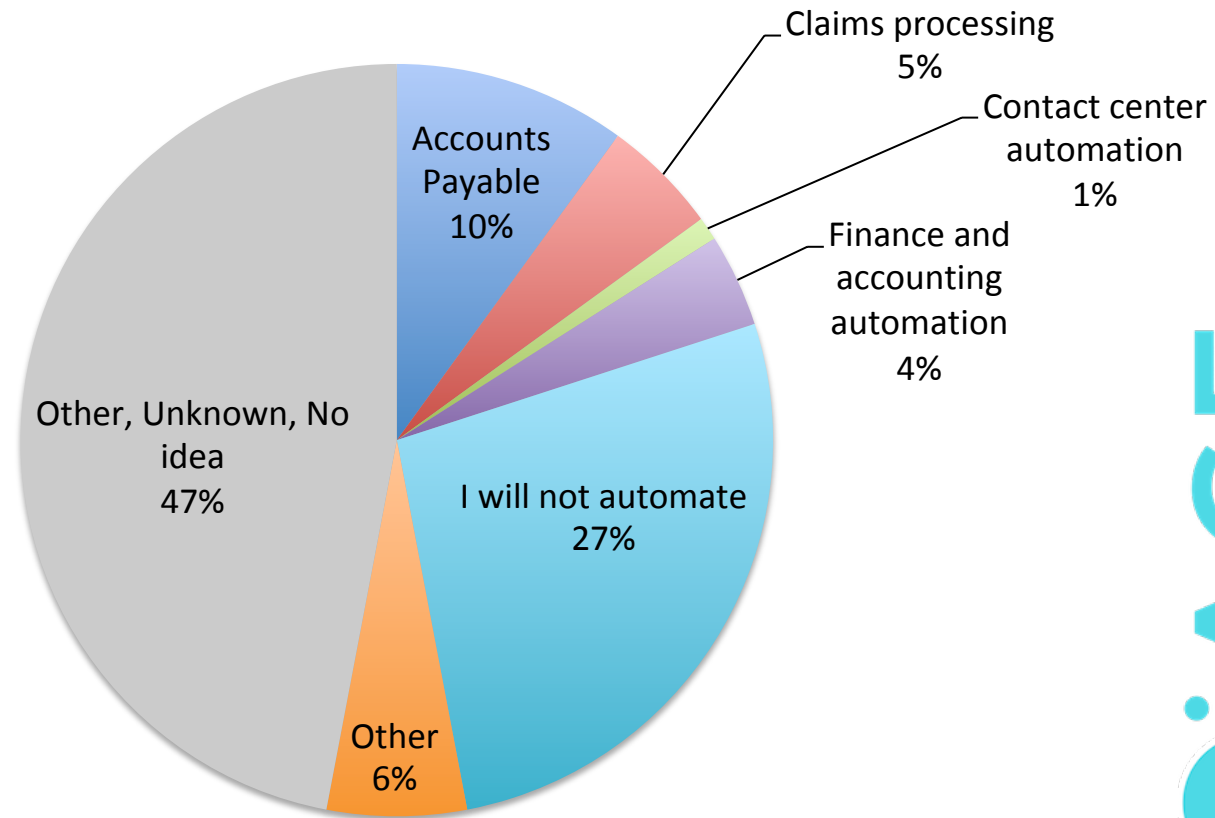
**Do you have an Android app integrated with IBM i?**



Technology used: 4 others,  
the rest: native

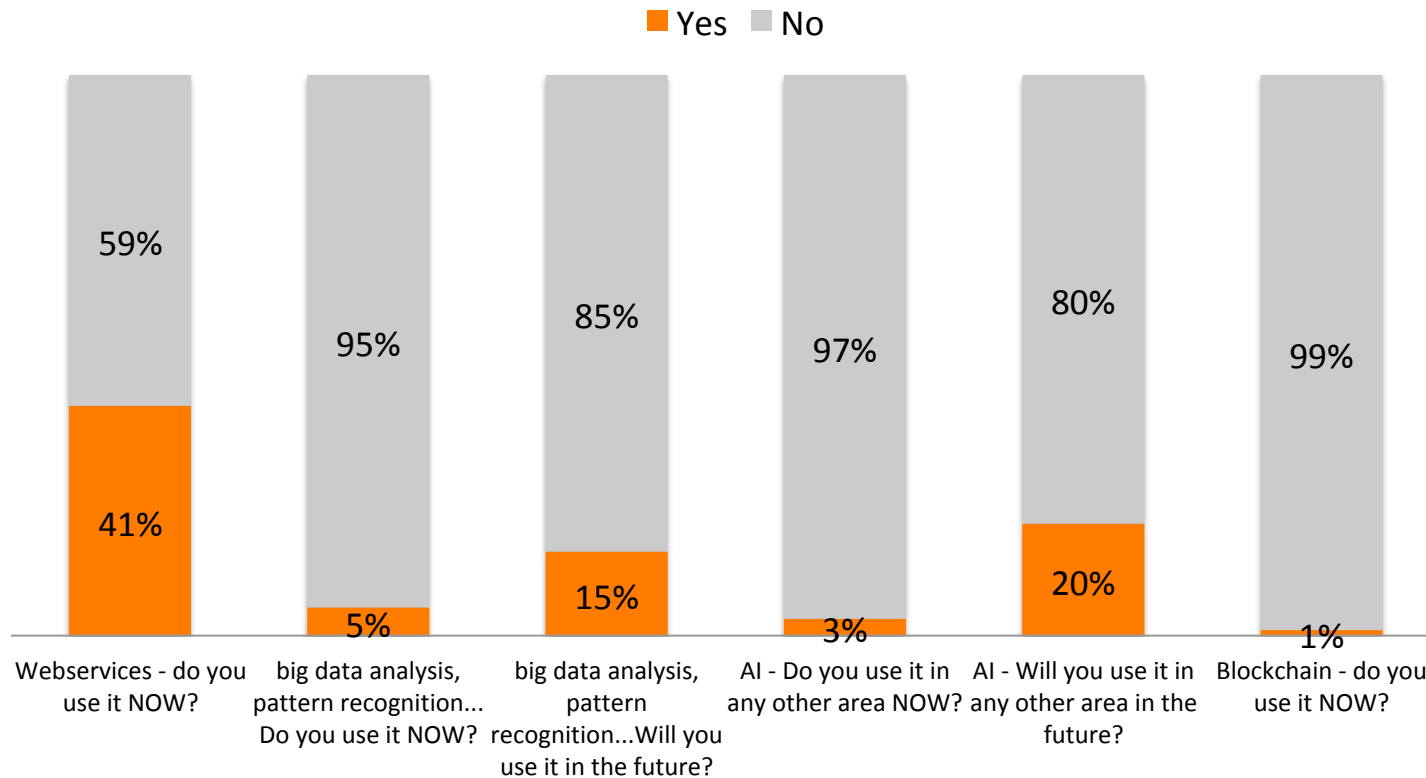
# Technologies – iAGE survey samples

## Robotic Process Automation - Which processes WILL you automate?



# Technologies – iAGE survey results

## Webservices, big data, AI, Blockchain - IBM i



# Tools, technologies

**When was the last day when you brought to  
the business some  
fundamentally new technology ?**

**„Is there an app for **that?**”**

# Tools, technologies

Technologies in fashion that work on IBM i or on Power servers

[Node.js](#) & [Node.js on Websphere](#)

[IBM Watson](#)

Blockchain

Workflow

Big data

Machine Learning

IoT

[The best open source Machine Learning frameworks](#)

[Chatbots - value chain](#)

[Big data landscape – November 2017](#)

[Microsoft Visual Studio Tools for AI](#)

[Blockchain – Marketing landscape](#)

[Tensorflow - open source ML](#)

[Blockchain startup map](#)

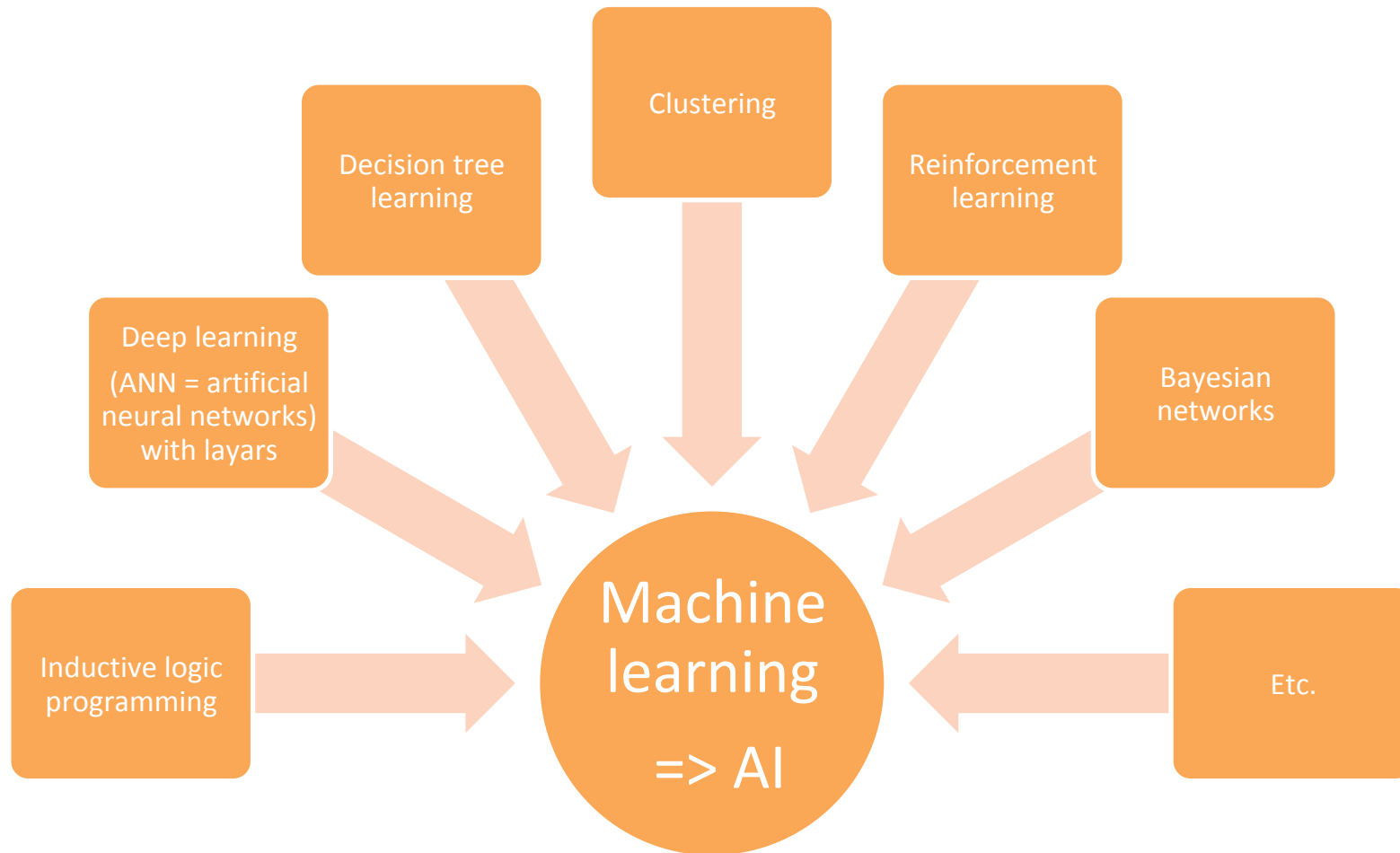
# Sample simple app

Watson IBM services

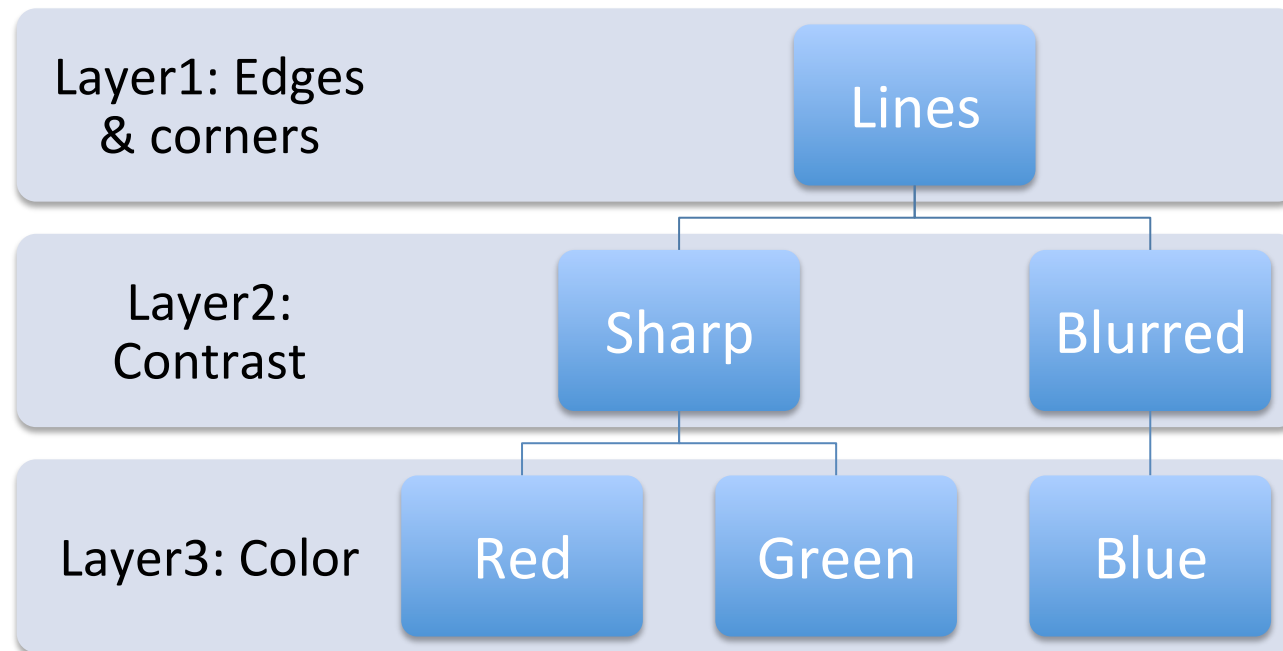
Node.js app - iAGE

IBM i (AS400)

# AI, ML & IBM i



# Deep learning





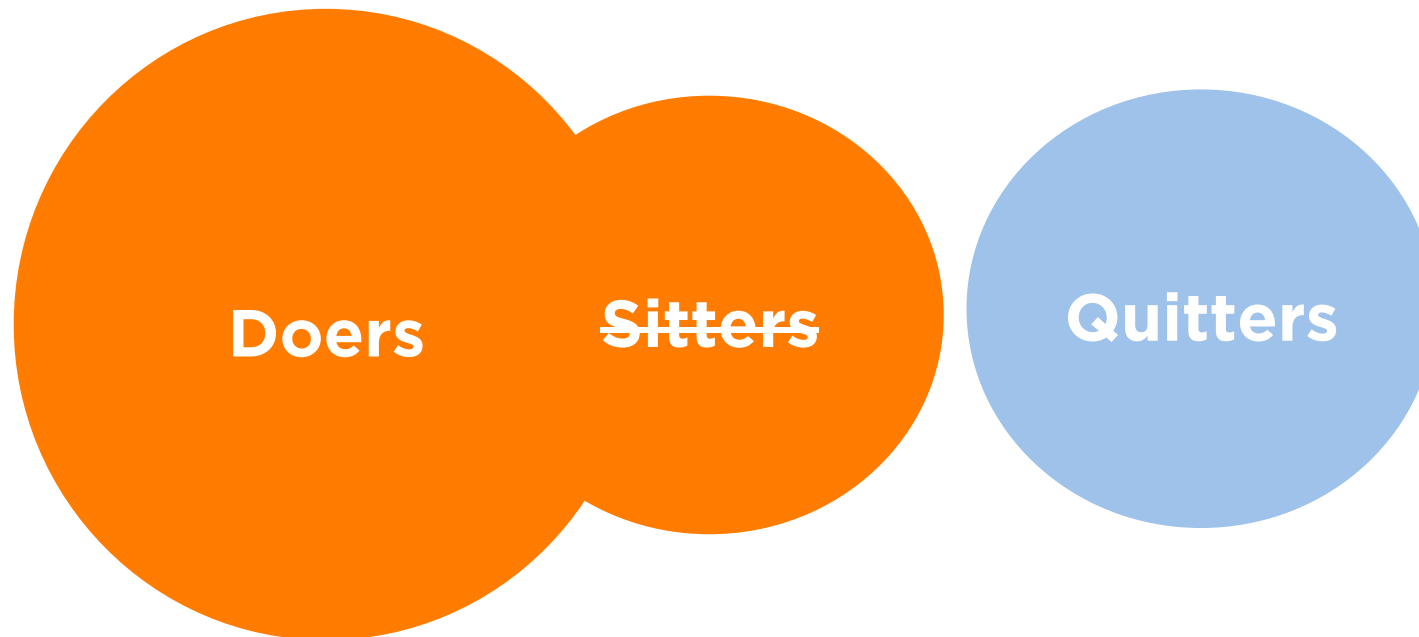
# 3

## SOFTWARE CHANGE, MODERNIZATION SUMMARY - ROADMAP



# YOU -> SITUATION

EXPECTATIONS => “THE SITUATION”



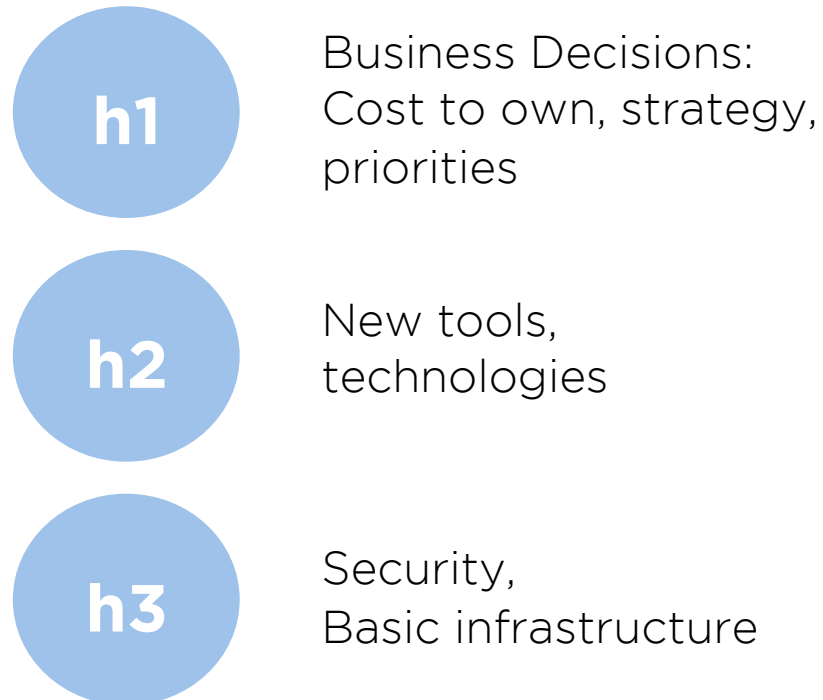
You can determine the situation

How?

# How to be(come) a doer?

EXPECTATIONS => “THE SITUATION”

## “Hard” factors



## “Soft” factors



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# Business Decisions: Cost to own, strategy, priorities

See our decision sheet



Worksheet

# SAFE Agile modernization

**Agile steps – modernization: today: 6-months projects**

Set Business Strategy 6 months	Prepare & pick critical business benefits 1 months	RFQ 1 months	Decide 1 months	Execute 3 months
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**People & processes**

**Be agile – role model! Empower people (NUMMI)**

**Technology**

**Use the tool that fits**

**Benefits**

Management 😊😊😊   Your IT people: 😊😊😊   Time: 😊😊😊   Risk: ☹

**+get thing moving and get \*/#t done**

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# Use new tools

- “R&D”
- Experiment
- Attract & keep new people

Make IT a driver

One more upside

your developers will become younger

-turn back time for the older – their brain! 😊

-you will find new talent easier

**If you want to change the world -  
be the change yourself**

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**Then you will  
love  
what you have**

**This is the key to happiness**